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The Economist

JUNE 6TH–12TH 2009

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Gordon Brown on the brink

Reasons to worry about Russia

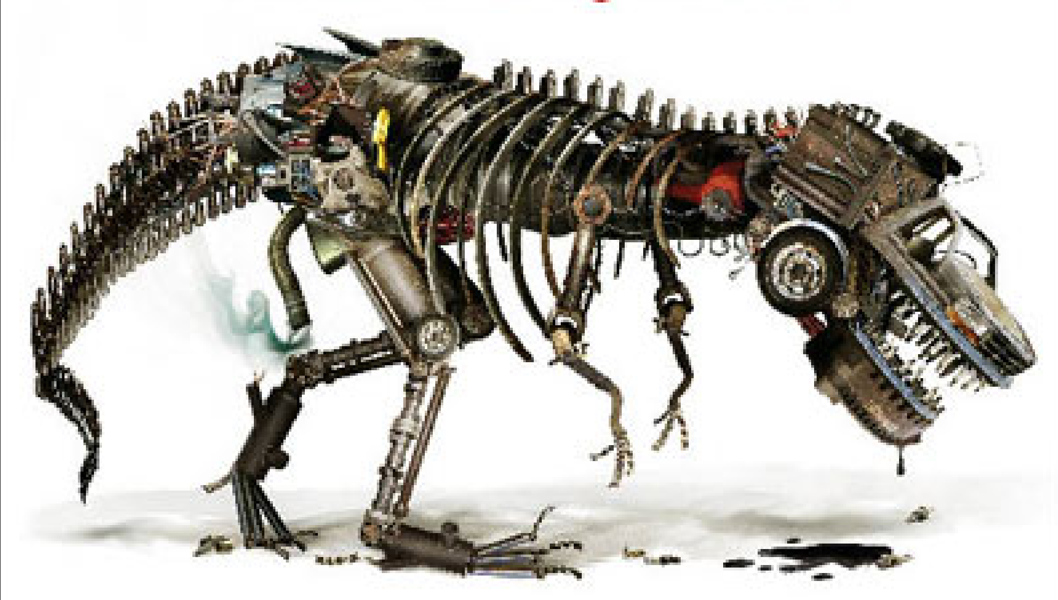
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Where will it end?



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Politics this week

Jun 4th 2009
From The Economist print edition

AP

Barack Obama visited Saudi Arabia, where he conferred with King Abdullah. He then went to Egypt to make a big speech, in which he called for "a new beginning" between **Muslims and America**, and said that Islam "is an important part of promoting peace". See article

Efforts to forge **Palestinian** unity seemed even less likely to succeed after a battle in the West Bank town of Qalqilya. Six Palestinians were killed when security forces run by the secular-minded Fatah group fought militants loyal to the Islamist movement, Hamas. See article

Mir Hosein Mousavi drew large crowds of supporters in campaigning for the first round of **Iran's** presidential election on June 12th. Mr Mousavi, a former prime minister, is the most reform-minded of three challengers competing against Mahmoud Ahmadinejad. It looked increasingly likely that the incumbent would be forced into a second round. See article

South Africa's president, Jacob Zuma, made his first state-of-the-nation address to Parliament in Cape Town. With the country in recession, he promised to create 500,000 jobs by the end of the year but added that his government would act "prudently" and spend "wisely".

A Briton was executed in Mali by an **al-Qaeda** cell. He and several other Western hostages were seized in January after attending a festival to celebrate nomad culture. Most of the others were released, but a Swiss man is still being held.

Moving up the agenda

Barack Obama stepped up his efforts on **health-care reform**, telling a group of senators that this summer was a "make or break period" for passing legislation. A report forecast that health-care costs could rise from 18% of GDP now to 34% in three decades unless something was done to overhaul the industry. See article

Ben Bernanke urged Congress to address America's $2 trillion **budget deficit**, warning that the government could not borrow "indefinitely". The Federal Reserve's chairman said markets were starting to take note of the outlook for America's fiscal position. See article

Tim Pawlenty unexpectedly announced that he would not seek a third term as Minnesota's governor. The 48-year-old evangelical Christian is a possible Republican presidential candidate in 2012.

The Chosun Un

Quoting South Korea's intelligence services, two newspapers there reported that Kim Jong Il, dictator of **North Korea,** had designated his third and youngest son, Kim Jong Un, as his successor. After the country's second nuclear test, on May 25th, North Korean officials were reportedly told to back Kim Jong Un.

AP

The 20th anniversary of the massacre that ended the **Tiananmen Square** protests in China prompted tight security measures around the square itself, and the blocking of a number of internet sites. Two exiled dissidents who tried to return to China were denied entry. There were, however, large commemorative protests in Hong Kong.

Amid mounting concern about the condition of an estimated 2.4m people who

have fled fighting in the **Swat valley** in Pakistan, the American administration asked Congress to approve $200m in emergency aid. See article

A court in **Pakistan** freed from house arrest Hafiz Saeed, the head of an Islamic charity accused of acting as a front for a banned terrorist group and which is blamed for many atrocities, including last November's attack on Mumbai. India's foreign minister, S.M. Krishna, reacted by questioning Pakistan's commitment to fighting terrorism.

A report by the United Nations' children's fund, Unicef, estimated that the number of people in **South Asia** going hungry has increased from 300m in 2007-08 to more than 400m.

How now, Brown bowed

Gordon Brown's troubles worsened. Ahead of an expected drubbing in local and European elections, **Britain's prime minister** prepared a ministerial reshuffle. But Jacqui Smith and Hazel Blears, two cabinet members, pre-empted him by resigning amid rumours of a Labour Party plot to oust Mr Brown. See article

Europe's voters went to the polls to elect a new **European Parliament**. Turnout was expected to be low and most of the campaigning was on national, not European, issues. See article

Moldova's parliament failed to choose a new president, so the country faces a fresh general election. Two people died in violent protests after the previous election in April.

A leftist party won **Greenland's** election, ousting the Siumut party, which had been in power for 30 years. Greenland's voters were disgusted by revelations of lavish parliamentary expenses. A new Inuit Ataqatigiit government will edge Greenland a bit closer to full independence from Denmark.

Grief on the ground

EPA



An **Air France** airliner flying from Rio de Janeiro to Paris crashed into the Atlantic, with the loss of all 228 people on board. Early indications pointed to the jet being caught up in a violent tropical storm.

As protests rose among indigenous people demanding more control over oil and other natural resources, **Peru's** prime minister, Yehude Simon, threatened to resign unless President Alan García gave more support to his efforts to end the demonstrations and also to tackle cocaine gangs.

The **Organisation of American States** voted unanimously to end Cuba's 47-year suspension. The United States agreed, so long as re-entry talks took account of the OAS's pro-democracy principles. Cuba said it did not want to join anyway. Separately, the United States and Cuba agreed to resume talks on migration between the two countries. See article

Meanwhile, **El Salvador's** new left-wing president, Mauricio Funes, took office and restored diplomatic relations with Cuba, leaving the United States as the only country in the Americas still lacking formal ties to the island.

Canada's economy shrank at an annual rate of 5.4% in the first quarter, its biggest decline since 1991, but less than economists had feared.

Venezuela's president, Hugo Chávez, praised "Comrade Obama" for nationalising General Motors and expressed worries that he and Cuba's Fidel Castro could end up to the right of the president of the United States.

Business this week

Jun 4th 2009
From The Economist print edition

General Motors entered bankruptcy protection. Although the recession helped push it under, the company had a long history of mismanagement and union intransigence. GM was once an emblem of America's industrial might, but its bankruptcy, with debts of $172 billion, is the country's biggest-ever industrial failure. The carmaker will receive another $30 billion in state loans. The American government's restructuring plan leaves it with a stake of 60.8% in GM and the Canadian government with 11.7%. GM's unions will take 17.5% and bondholders 10%. It is hoped that GM, like Chrysler, will spend only a short time in bankruptcy protection. See article

GM found a buyer for its **Hummer** sport-utility vehicle brand, which came to symbolise the company's fondness for gas-guzzling cars. The purchaser is a Chinese company.

The Russians are coming

The German government chose its preferred bidder for **Opel**, GM's European division, opting for a joint venture between Magna International, a Canadian car-parts supplier, and Russia's Sberbank after Italy's Fiat pulled out. There was speculation that a chunk of Opel's production would be reallocated to Russian plants. See article

A judge approved the sale of most of **Chrysler's** assets to **Fiat**, clearing the way for the pair's alliance and Chrysler's departure from bankruptcy protection. Objections from some of Chrysler's secured lenders, which argue that their rights have been sidelined in the process, were expedited to a federal appeals court.

GM's bankruptcy caused it to be removed from the **Dow Jones Industrial Average**, a weighted average of 30 stocks. The company had featured in it since 1925. Citigroup was also kicked off because of the government's "large and ongoing stake". Their replacements are Travelers, an insurance company, and Cisco Systems, based in Silicon Valley.

Bond markets were spooked by the failure of a government auction of short-term debt in **Latvia**, increasing fears that the country might devalue its currency, and also worries about the poor health of other economies in the region.

Chipping away at Microsoft

Acer, the world's third-biggest maker of personal computers, revealed that it would offer Google's **Android** operating system as an alternative to Microsoft's Windows on its new notebook.

A bidding war broke out for **Data Domain**, with two rivals offering around $2 billion for the data-storage company.

America's **Federal Reserve** laid out new and unexpected criteria for banks working to repay funds received under the Troubled Asset Relief Programme, and notified 19 large financial companies that they must "demonstrate access to public equity markets". Several companies, including JPMorgan Chase, Morgan Stanley and American Express, duly raised billions of dollars through share issues. See article

A member of Abu Dhabi's royal family sold 1.3 billion of his shares in **Barclays**, reaping an estimated profit of £1.5 billion ($2.5 billion). The investment was made last autumn as part of the British bank's capital-raising plan. Some analysts wondered if sales of stakes bought at the height of the banking crisis might mean that an end to the recent rally in banks' share prices was imminent.

Kohlberg Kravis Roberts said it lost $1.2 billion before tax in 2008. The private-equity group disclosed

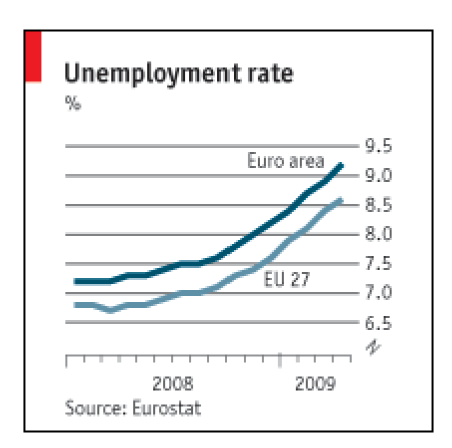
that it had written down by half investments in one of its European funds, which houses some of its most high profile buy-outs, including ProSiebenSat.1, a German media company, and Alliance Boots, a British retailer.

The mighty Dollar

KKR had better success at **Dollar General**, which it bought in 2007. The low-cost retail chain's revenue rose by 16% in the three months ending on May 1st compared with the same period a year earlier, leading to a healthy increase in profit. Around 25% of the items sold in its shops are priced at $1 or less, with most other goods, including food and household products, under $10.

Faced with the mounting cost of its pension commitments, Barclays became the latest big British company to propose closing its **final-salary pension scheme** to existing employees. BP decided to close its plan, which has 60,000 members, to new staff.

The **unemployment** rate in the 16-country euro area rose to 9.2% in April, its highest level since September 1999. The figure was 8.6% for the entire European Union. Spain had the highest unemployment rate, at 18.1%.

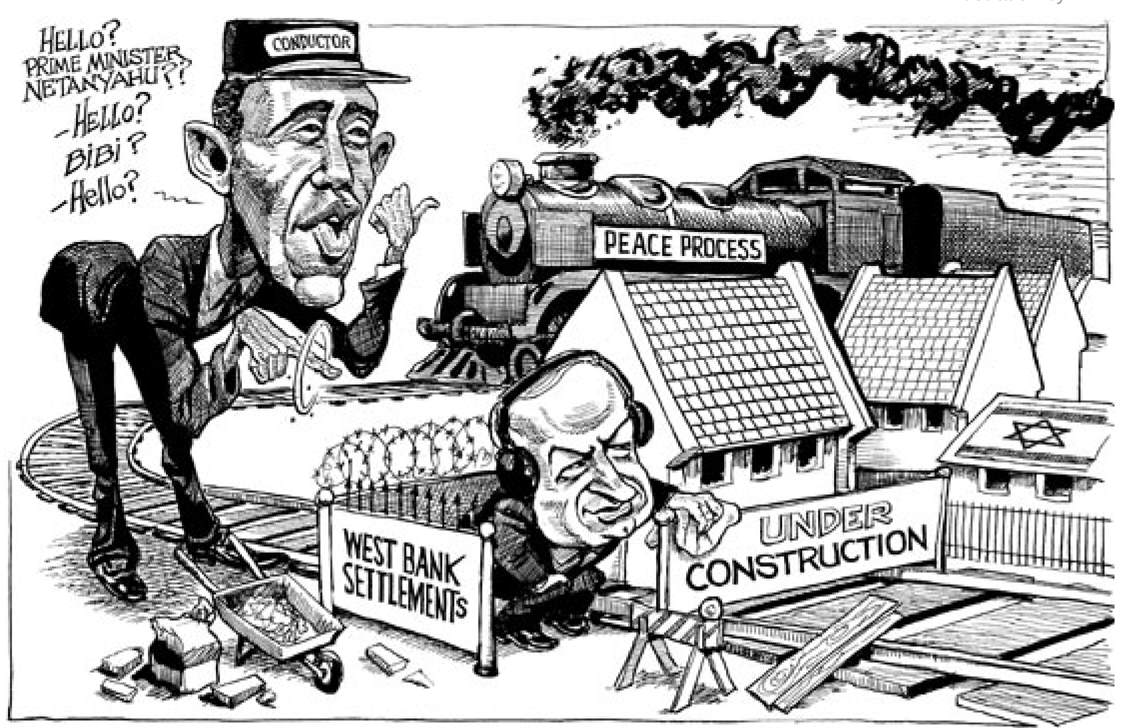


BBVA, a Spanish bank, encouraged employees to take **sabbaticals** of between three and five years on 30% of their salary with a guaranteed job on return. The measure forms part of BBVA's cost-cutting.

KAL's cartoon

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Illustration by KAL



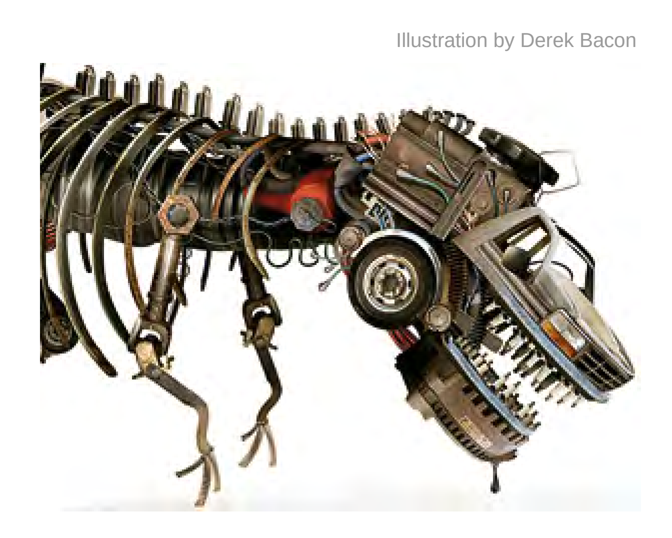
The decline and fall of General Motors

Detroitosaurus wrecks

Jun 4th 2009
From The Economist print edition

The lessons for America and the car industry from the biggest industrial collapse ever

Illustration by Derek Bacon



THE demise of GM had been expected for so long that when it finally died there was barely a whimper. Wall Street was unmoved. Congress did not draw breath. America shrugged. Yet the indifference with which the news was received should not obscure its importance. A company which once sold half the cars in America, employed in its various guises as many people as the combined populations of Nevada and Delaware and was regarded as a model for managers all over the world has just gone under; and its collapse holds important lessons about management, about government and about the future of the car industry (see article, article).

Government and GM: a fatal mixture

GM's architect, Alfred Sloan, never had Henry Ford's entrepreneurial or technical genius, but he had organisation. He designed his company around the needs of his customers ("a car for every purse and purpose"). The divisional structure he created in the 1920s, with professional managers reporting to a head office through strict financial monitoring, was adopted by other titans of American business, such as GE, Dupont and IBM before the model spread across the rich world.

Although this model was brilliantly designed for domination, when the environment changed it proved disastrously inflexible. The problem in the 1970s was not really the arrival of better, smaller, lighter Japanese cars; it was GM's failure to respond in kind. Rather than hitting back with superior products, the company hid behind politicians who appeared to help it in the short term. Rules on fuel economy distorted the market because they had a loophole for pickups and other light trucks—a sop to farmers and tool-toting artisans. The American carmakers exploited that by producing squadrons of SUVs, while the government restricted the import of small, efficient Japanese cars. If Detroit had spent less time lobbying for government protection and more on improving its products it might have fared better. Sensible fuel taxes would have hurt for a while, but unlike market-distorting fuel-efficiency rules, they would have forced GM to evolve.

As for the health and pension costs which have helped sink GM, the company and the government bear joint responsibility for those too. After the war GM rejected a mutual scheme that the unions wanted because it smacked of socialism; and around the same time, the company agreed to give retired workers full pensions and health care for life. But if successive administrations had dealt with America's expensive and inadequate health care—a problem with which Barack Obama is now wrestling (see article)—the cost of those union demands would have been far lower. None of GM's competitors has had to shoulder costs

per worker anything like as heavy: until an agreement in 2007 with the union, each car in Detroit carried about $1,400 in extra pension and health-care costs compared with the foreign-owned competitors in America.

GM, Ford and Chrysler tried to improve: by 2006 they had almost caught up with Japanese standards of efficiency and even quality. But by then GM's share of the American market had fallen to below a quarter. Rounds of closures and job cuts were difficult to negotiate with unions, and were always too little too late. Gradually the cars got better, but Americans had moved on. The younger generation of carbuyers stayed faithful to their Toyotas, Hondas or Mercedes assembled in the new cheaper car factories below the Mason-Dixon line. GM and the other American firms were left with the older buyers who were, literally, dying out.

GM's demise should not be read as a harbinger of doom for the car industry. All around the world people want wheels: a car tends to be the first big purchase a family makes once its income rises much above $5,000 a year, in purchasing-power terms. At the same time as people in developing countries are getting richer, more efficient factories and better designs are making cars more affordable. That is why the IMF forecasts that the world will have nearly 3 billion cars in 2050, compared with around 700m cars today. In the next five or six years the Chinese will overtake the Americans in terms of annual car sales: in 40 years' time the Chinese will have almost as many cars as exist in the whole of the world now. Indeed, GM's own experience abroad shows the promise of emerging markets. Brazil has long been a source of profits, and GM has a leading position in China.

Yet although the long-term prospects for sales growth look excellent overall, the car industry has a problem: it needs to shrink dramatically. At present, there's enough capacity globally to make 90m vehicles a year, but demand is little more than 60m in good economic times. Even as the big global manufacturers have been building new factories in emerging markets, governments in slow-growing rich-world markets have been bribing them to keep capacity open there.

Because the industry employs so many people and is a repository of high technology, governments are easily lured into the belief that car firms must be supported when times are tough. Hence Mr Obama's $50 billion rescue of GM; and hence, too, the German government's financial backing for the sale of Opel, GM's European arm, to Magna, a Canadian parts-maker backed by a Russian state-owned bank. German politicians have made it clear that they plan to keep German factories open even if others elsewhere in Europe have to close. At least the American rescue recognises the need to remove capacity from the market: GM will, as a result of the deal, lose 14 factories, 29,000 workers and 2,400 dealers.

It could still be a great business

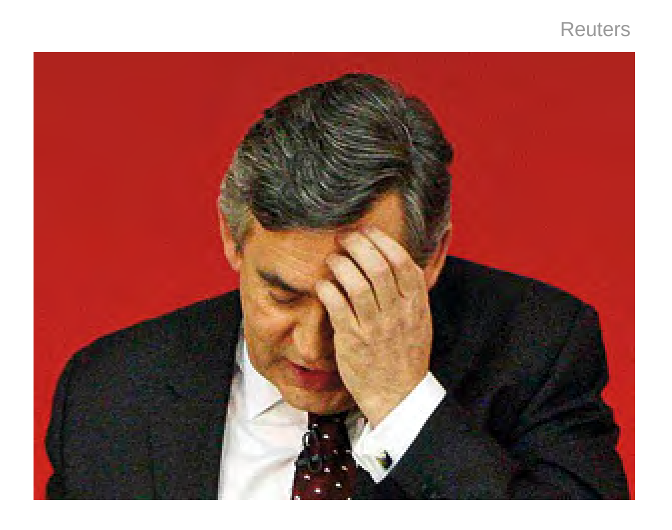
For all its peculiarities, the car industry is no dinosaur—Toyota, for instance, is a byword for manufacturing excellence. But the unevolved GM deserved extinction. Detroit employed so many people and figured so large in American culture that governments felt they had to protect it; but in doing so, they made it vulnerable to less-coddled competitors from abroad. By trying to keep their car industry big, America's leaders ended up preventing it from becoming good. There is a lesson in that which all governments would do well to learn.

Where will it end?

Jun 4th 2009
From The Economist print edition

Britain's prime minister is losing his grip. An election later this year is the best option

Reuters



WHEN Gordon Brown moved into 10 Downing Street, this newspaper remarked that he had the makings of both a disappointing prime minister and a fine one (see article). Sadly, he has proved to be the first. This week saw a meltdown in his government (see article). Two cabinet ministers caught up in the expenses scandal quit, while the prime minister conspicuously (and shamefully) failed to back his loyal chancellor of the exchequer, Alistair Darling, in an apparent attempt to move an even closer ally, Ed Balls, into the job. A letter suggesting a leadership challenge circulated on Labour's backbenches. Awful results in the European and local elections beckoned. Mr Brown's supporters insisted that an imminent reshuffle would re-energise his government. But his premiership seems to be slipping uncontrollably downhill.

Brown and out

In Mr Brown's defence, some form of slide was inevitable: any party that has been in power for a dozen years grows lazy and dishonest. At times he has offered the serious pragmatic leadership which he always insisted the country needed, but many of the character flaws so obvious when he was appointed have also been in evidence: the tribalism, the refusal to admit mistakes, the bouts of control freakery mixed with indecisiveness. For a few brief months, he seemed to voters to fulfil his promise to be "not flash, just Gordon"; but then he dithered about calling an election and, when confronted by a Tory surge in the polls, offered the comically implausible explanation that he was retreating for the good of the country.

His premiership since has been dominated by two events—the economic crisis and the scandal over MPs' expenses. How you judge him on the former depends in part on how much you deem him responsible for Britain's parlous situation in the first place. Mr Brown pins the main blame on the global financial collapse; but his own recklessness with the public finances as chancellor, for which there has been no acknowledgment of responsibility, also hurt Britain grievously. His performance on the economic front has been better since he has been prime minister. He deserves credit for convening the G20 meeting in London, and for Britain's pioneering bank rescues and useful budgetary stimulus (in noted contrast to the Tories' proposals). Yet even his economic management has lately seemed directed by self-interest: his most recent budget relied on over-optimistic growth forecasts and an implicit promise that higher taxes on the rich would bridge the fiscal gap.

The expenses saga should count for less, but in the current febrile mood it does not—and here Mr Brown has done badly. Both parties are full of miscreant MPs; but Labour has borne the brunt of the public's fury. That is partly because it is in office, but also because the Tories' leader, David Cameron, quickly grabbed the initiative. Mr Brown has equivocated, dangling colleagues, including Mr Darling, out of the window without actually dropping them. Whatever political skills he had seem to have deserted him. His government appears at one moment sinister (one of his closest aides was caught in a poisonous e-mail scandal) and the next comical (he made a hideously ill-judged appearance on YouTube). Gradually power has slipped away from the Downing Street bunker.

The least bad solution

Suddenly solutions are being offered from every quarter. Give Mr Brown more time, beg the prime minister's dwindling bunch of supporters: new ministers will revive his fortunes, as Lord Mandelson did last year. Replace Mr Brown with a new leader, urge many Labour MPs, praying that somebody like Alan Johnson (see article) will lead them if not to victory, at least to a smaller defeat. Call an election immediately, cry the opposition Tories, who are ahead in the polls, and the Lib Dems, who aren't, but are scoring better than they usually do.

All these things are in the interest of some group or other—but not in the national interest. The sad truth is that British politics is in a jam.

Why not have an election now? That, after all, is what polls show voters want. But two factors argue against an immediate election. The first is that the Tories are probably not as ready for government as they claim. The bigger reason, though, is that an election campaign now would be dominated by discussion of second homes, moats and duck houses—not subjects which should determine the shape of a five-year parliament.

The British people are understandably furious with their rulers. Bad MPs need to be got rid of: some of the worst ones have already said they will stand down. Party leaders—and Mr Brown in particular—should be quicker to push out the fiddlers. Parliament's rules need to be changed, but there is an independent review headed by Sir Christopher Kelly looking into that, which is due to report in October. It could surely be chivvied into producing its thoughts sooner. The scandal has led to broader talk of constitutional reform—a good idea in itself but an election fought around hastily cooked-up ideas in the current climate could be disastrous.

What about handing over to somebody like Mr Johnson? *The Economist*, to be frank, is sorely tempted. Replacing the bitter, divisive Mr Brown with the calm, well-liked Mr Johnson is an attractive prospect. But foisting a second unelected prime minister on the country would be bad for democracy. Anyway, a leadership election might not be as swift and smooth as its advocates suggest; and a long, hard-fought one would increase Labour's fratricidal tendencies, not lessen them.

In an ideal world Mr Brown would govern as best as he can till the late autumn, oversee the implementation of the speeded-up Kelly reforms, thus drawing the sting from the expenses scandal, and then call an election to clear the air. In reality, the chances are that one of two much less desirable things will happen. Either the prime minister will be disposed of by his colleagues some time in the next few weeks; or he will cling on for as long as he is constitutionally permitted to, before calling an election in June 2010. Neither is an attractive prospect, but Mr Brown's disappointing premiership seems to be heading towards one of those two sad ends.

Barack Obama and the Middle East

Tell it straight

Jun 4th 2009
From The Economist print edition

The president must make the most of a surge of goodwill towards him from Muslims and Arabs

AFP



BARACK OBAMA'S biggest bonus on his first presidential trip to Arab parts of the Middle East was not being George Bush. Many Arabs in the region, as well as Turks and Persians, are rightly ready to give him a chance to restore his country's tattered reputation. So his honeyed words, delivered from a font of Islamic learning in Cairo, will have helped him, at least a bit, in that arduous task. But they will not have drawn all the poison of the past eight years, when many of the world's 1.4 billion Muslims came to believe, erroneously if understandably, that America was their enemy. Mr Obama's ringing oratory, which drew waves of applause and a rousing ovation, will soon be forgotten unless it is followed by deeds.

In a nutshell, and if you leave aside Afghanistan-Pakistan on the region's rim, he has four main tasks. First, he must help persuade Israelis and Palestinians to live in peace in two states, side by side. Second, he must quit Iraq as he has promised, but leave behind a reasonably stable and decent regime. Third, he must reach an accommodation with Iran that acknowledges its place as a regional power while dissuading it from getting a destabilising nuclear weapon. Fourth, he must tilt American policy back towards a more realistic balance between naive idealism and cynical pragmatism, without either alienating autocratic allies such as Egypt and Saudi Arabia or ditching America's support for democracy and human rights. On all those fronts, Mr Obama was eloquently sensible, frequently quoting the Koran to reinforce his message of peace.

Mr Obama again displayed his zeal for trying to crack the Israel-Palestine puzzle from the very start of his presidency, whereas Mr Bush tried only at the end of his. He rightly scolded recalcitrant Israelis for their refusal even to accept the idea of two independent states and for letting Jewish settlers continue to build or expand towns and villages on the West Bank. Mr Obama also encouraged the Palestinians in their so-far-abortive quest for unity among themselves, in the implied hope that the Islamists of Hamas might eventually accept Israel's existence so that they may be sucked into negotiations; for without them, no plan will stick. The president rightly urged Arab leaders to continue to press all Palestinians to embrace Israel, provided it offers a decent two-state deal.

As expected, Mr Obama held back from producing a detailed new plan for dealing with Iran's nuclear ambitions. But he avoided his predecessor's threatening talk of "keeping all options on the table" and dangled no prospect of regime change in Tehran, as many of Mr Bush's people once did. Some say Mr Obama should heed an argument, now gaining ground in the West, that it is too late to stop Iran processing uranium as a precondition for negotiation, and that the least bad course now would be to push for intrusive international monitoring of Iran's nuclear activity in the hope that it remains civilian and not hell-bent on weaponisation. On this tricky score, Mr Obama has probably not yet made up his mind how to proceed. But in Cairo he stated that Iran "should have the right to access peaceful nuclear power if it

complies with its responsibilities under the nuclear non-proliferation treaty”.

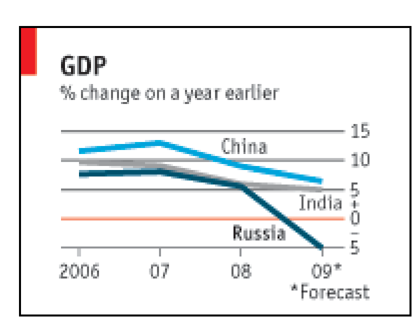
Mr Obama rightly eschews Mr Bush’s crudely Manichaean simplifications of the “war on terror”. But he makes it admirably plain that he is no less determined to fend off the still rising tide of Muslim jihadism, to contain the Taliban, and to beat back al-Qaeda, which most Arabs and Muslims abhor. He knows he can do this only with the co-operation of Muslims across the world. If they accept the sincerity of his protestations of good faith in Cairo, he should get more help from them than his hapless predecessor did. America sorely needs it. And Mr Obama deserves it.

Russia's ailing economy

Red square blues

Jun 4th 2009
From The Economist print edition

Russia's failure to diversify away from oil should worry the Kremlin



NOT long ago, Russia proudly counted itself as one of the BRICs—with Brazil, India and China, the four emerging-market giants that were outgrowing the rich world. Yet it now makes more sense to talk of the BICs. With GDP shrinking by almost 10% in the year to the first quarter, Russia is in deep recession.

This is upsetting and worrying for the country's political masters in the Kremlin. Upsetting because, as late as last autumn, they dismissed the economic crisis as a Western problem that would leave Russia unscathed. But the collapse in the oil markets has shown just how much Russia still depends on getting a good price for its natural resources. Neither President Vladimir Putin in 2000-08 nor (since last May) President Dmitry Medvedev has done anything like enough to diversify the economy—indeed, it depends more on oil and gas now than it did. The government has utterly failed to create a legal and political infrastructure to support business and enterprise.

The Kremlin may not care much about either of these shortcomings, especially now that oil once again costs $70 a barrel. Yet even at this price it must worry, for it can no longer honour its side of Mr Putin's original bargain: that, in return for a guaranteed rise in living standards, ordinary Russians would accept curbs on the media, rigged elections and a slide into autocracy. The Russians are now lumbered with the second part of this deal without gaining the benefits of the first. Not since Mr Putin came to power have high inflation and shrinking GDP caused such a fall in real incomes (see article).

Why has this not led to more protests? Partly because the Kremlin is firmly in charge and partly because many Russians built up savings in the boom years and have yet to feel the full impact of recession. Besides, faith in the "good tsar" and low expectations of government mean that few blame Mr Putin, now Mr Medvedev's prime minister.

In the past few months the Kremlin has also tried to show a friendlier face. Mr Medvedev gave his first full Russian interview to *Novaya Gazeta*, an opposition newspaper, on the grounds that its journalists "did not suck up to anyone". He has acknowledged critics among non-governmental organisations. He hailed Barack Obama in their first meeting in London in April, inviting the American president to Moscow in July.

The trouble is that this has yet to produce any change. The second sham trial of Mikhail Khodorkovsky, former boss of the Yukos oil company, makes a mockery of judicial independence. Better relations with America are portrayed in Russia as a belated American recognition of past errors and a vindication of the Kremlin's assertiveness, notably over Georgia.

Nor is there any sign of the promised falling-out between a hardline Mr Putin and a liberal Mr Medvedev. In fact, the differences between the two men are largely of style. After a year of Mr Medvedev's presidency, only 12% of Russians feel that he is in charge, whereas over 30% believe that power remains with Mr Putin. And Mr Putin has hinted once again that he may resume the presidency for two more six-year terms in 2012.

Bear markets

The risk for the Kremlin is not that it will lose control or collapse into internecine fighting—Mr Putin's grip is too firm. Nor is it that Russia will go bust, as the Soviet Union almost did in the late 1980s and Boris Yeltsin's Russia did in 1998. Foreign reserves of $380 billion mean there is enough money to pull through. But without legal, political and economic reform, Russia could well lapse into stagnation. It has

squandered one oil-price boom. The price of doing nothing again would be to condemn Russia to the vagaries of the oil market. Mr Putin and Mr Medvedev must not make the same mistake twice.



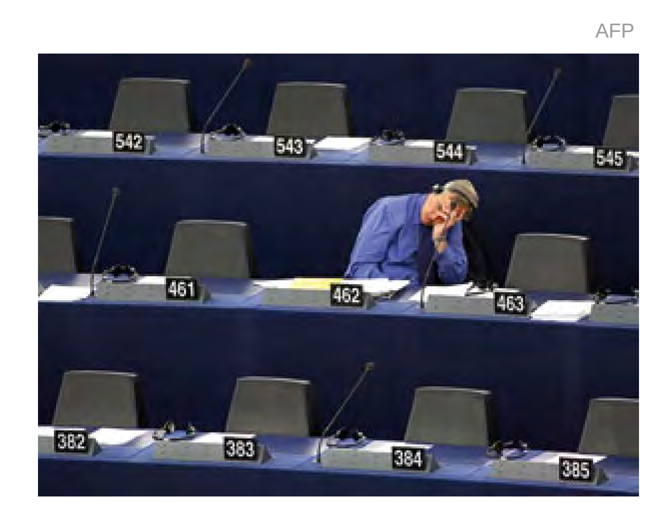

The unloved European Parliament

From Strasbourg with indifference

Jun 4th 2009
From The Economist print edition

The European Parliament has failed to win legitimacy with voters. Look to Denmark for a solution

AFP



THE rich world's biggest election, with 375m potential voters, ought to be both exciting and uplifting. Yet campaigning ahead of this weekend's election to the European Parliament has been neither. Almost everywhere it has focused exclusively on national issues, not European ones. In several countries a ragbag of extremists, nutcases and xenophobes look set to win seats. And the turnout, which has fallen in every European election since 1979, may yet sink to a new low.

The fact is that Europe's electors do not care about their parliament. Most do not bother to vote. Those who do take the excuse to cock a snook at their national governments and boost fringe parties. In so far as they have any view about the European Parliament, they see it as a talking-shop with no influence—a place that lavishes its unknown members with pay, pensions and expenses and wastes oodles of euros every month on a ludicrous commute from Brussels to Strasbourg.

Some (but not all) of this is either unfair or plain wrong. The European Parliament has real power—and will become still more powerful if the European Union's Lisbon treaty is ratified (see article). In many ways MEPs have more say over legislation than do most of their national counterparts. In recent years a few hardworking MEPs have wielded a decisive influence on the final shape of EU directives that ranged from chemicals and services to animal rights and working hours. And the parliament has, in effect, arrogated to itself the power to reject national governments' appointments to the European Commission, the EU's executive arm. Even its much-abused expenses system is being cleaned up, though at the cost of higher salaries for most MEPs.

Yet none of this will solve the parliament's central problem: its lack of legitimacy among Europe's voters. The perception that Europe's legislative machinery is remote and unaccountable is widespread even in countries that like the EU. Among eurotypes the preferred answer to the "democratic deficit" has usually been to increase the powers of the (directly elected) European Parliament. But to most of Europe's disillusioned citizens the parliament seems to be part of the problem.

Go national, not European

Is there a better way? One that has much appeal is to increase the influence of national parliaments on European policy. The best-known model is the Danish Folketing, which summons government ministers every Friday to give them a mandate for the following week's meetings of national governments in the

EU's Council of Ministers. If Danish ministers wish to depart from this mandate in the course of negotiations in Brussels, they have to consult the Folketing's European committee by telephone. Danish citizens are encouraged to lobby their representatives in the Folketing, which maintains a thorough and up-to-date library and website on EU affairs. Building on this, the Lisbon treaty includes a tentative provision to give national parliaments a little more say in EU legislation. This should be strengthened so that if, say, one-third of national parliaments objected to a legislative proposal, it would have to be withdrawn and rewritten.

Giving national parliaments more control over the EU would raise questions about the purpose of the European Parliament. In some ways, direct elections were a mistake (before 1979 MEPs were selected from national parliaments). It would be hard to scrap elections to the parliament now. That is a pity, because such a step might, strangely, make the EU less remote and more accountable.

On small businesses, newspapers, California, Britain, Kuwait, Jeffrey Sachs, Crossrail, vroomtones

Jun 4th 2009
From The Economist print edition

A helping hand

SIR – The relationship between small businesses and their banks has deteriorated over the past year, with banks raising the cost of finance and firms being denied new credit. As you pointed out, the European policy of a credit mediator, an independent go-between for banks and their business customers, can be very effective in rebuilding that broken bond ("Humble but nimble", May 23rd). A survey by the Federation of Small Businesses of its members found that 72% thought a corporate mediator would help them access finance; 86% said that credit decisions should be taken at a local level, in conversation with a bank's branch manager who understands small businesses.

Since the start of the year we have been calling for a mediator in Britain, but have yet to see such a policy put in place. The British government should follow its European neighbours and take a harder line with the banks. Getting banks lending again is the solution to working our way out of the current crisis.

John Wright
National chairman
Federation of Small Businesses
London

Read all about it

SIR – There is a fundamental difference between new and old media that your briefing about the internet's impact on the future of the news business only touched on ("Tossed by a gale", May 16th). Newspapers differ from other news sources in one very significant respect: they actually employ journalists to report. They provide budgets for these people to travel to the areas where news events are happening, conduct interviews there, ferret out documents relevant to the story, and so forth. Yahoo! does not have bureaus in Washington, London or Tokyo, and whatever appears on Yahoo! News is a digest of what someone in its office has read in a real newspaper or downloaded from some other, similar, online source.

This is also true of all other internet news "sources" and blogs. They are in fact secondary sources, either repeating what real journalists have dug up or putting their own spin and comment on it.

A desk with a computer terminal is a poor observation post from which to see the world. In the absence of newspapers, who will fund reporters' travels? Who will interview the people making the news? Who will dig out the information? I don't see any online news outfit spending the money to do anything like that. The news will always be with us, but its quality will be immeasurably poorer without newspapers.

Albert Kirsch
Bal Harbour, Florida

*SIR – Curious. In a leader on the crisis in the newspaper industry you offered little more than a polite shrug and your usual balm, that technology and the market will eventually make everything all right ("The rebirth of news", May 16th). Then in the very next leader, on the uproar over parliamentary expenses, you somehow forgot to mention that it was a newspaper, the *Daily Telegraph*, that exposed the scandal ("Moats and beams", May 16th).

John Harney
New York

A shot at Sacramento

SIR – I didn't like your condescending attitude towards California's voters, who rejected ballot proposals on the budget deficit put forward by the governor and the legislature ("No gold in state", May 23rd). Contrary to what you believe, the electorate understood the ballot questions perfectly well, and that passing them would mean higher taxes and a raid on funds allocated to specific programmes. That is why the proposals were rebuffed.

We are fed up with being the highest taxed state in America. It seems that all the legislature can do to address the budget crisis is raise taxes ad infinitum. They are sucking us dry. The message is clear: the state needs to tighten its belt, just like the rest of us.

Clelia Svoboda
San Clemente, California

SIR – I could not help but notice a connection between your briefing on the perils of a news industry struggling to survive in a country where most citizens are either uninformed or choose a news source slanted toward their own political bias, and your article on the budget crisis facing California because of intransigent partisan wrangling and excessive democracy.

Jonathan Patton
Franklin, Tennessee

British subjects

SIR – I am compelled to challenge the introduction to your leader on the expenses scandal in Parliament: "Over the past century, the British have lost a lot—their empire, their military might, their economic leadership and even their sense of superiority" ("Political climate change", May 23rd). The error you make is implying that losing these things is somehow a bad thing. On the contrary, colonising other peoples is now considered an offence against humanity: it has been abandoned and should not be mourned. Moreover, Britain does not waste billions of pounds each year on dubious defence projects and militaristic self-indulgence, and is better able to spend the money elsewhere. It participates in NATO, the most successful military organisation in modern history, which keeps Britain more than secure. Appropriate military strength that is cost-efficient is an optimal position.

As for economic leadership, this is now a collaborative effort and should be celebrated as a victory for liberal economics (born in Britain) rather than some short-sighted national tragedy. When it comes to a sense of superiority, that is more subjective and certainly based on individual rather than collective identity.

It is quite clear that globalisation and cosmopolitanism are nails in the coffin of deluded ideas of national identities. What a nation loses has to be contrasted with what it gains in return. As the world has changed, so has Britain. It has never been happier, healthier, wealthier or better educated. It is comfortable and secure among the most developed nations, which have learnt that shared values, mutual economic relationships, social justice and collective defence bring genuine success. In effect, what you described in your rather adolescent attack on Britain is not the changing nature of that nation but the changing nature of the world.

Mark Wittgenstein
Winston-Salem, North Carolina

Politics in Kuwait

*SIR – The struggle that Kuwait faces in making its democracy function effectively is present in many states in the region ("It's hard to create a democracy", May 23rd). In countries where there are still very strong family, even tribal, ties, people frequently still vote for their kin more than political ideology. The tribal areas in Kuwait, for example, account for a sizeable portion of the elected representatives.

Where ideology has mattered is in the increasingly more conservative tendencies of many Gulf societies.

These states are frequently willing to open up and become more "Western", yet their people frequently are more fearful of losing their own traditions. This is best illustrated by one Kuwaiti Islamist member of parliament, who at a conference some years ago was proud to proclaim that Kuwait had a democratic vote to deny women the right to vote.

The fact that Kuwait continues to move forward towards a more democratic system despite the challenges can only be welcomed.

Chris Doyle
Director
Council for Arab-British Understanding
London

Good Acumen

SIR – Regarding your profile of me (Face value, May 23rd), I would like to say that Jeffrey Sachs is a thoughtful advocate of development for the extreme poor, and his work with Millennium Promise is important and commendable. We disagree on some points, such as whether private markets for bednet distribution can complement free distribution programmes, but like many tough problems, we embrace the diversity of perspectives in order to find the best solutions.

Jacqueline Novogratz
Chief executive
Acumen Fund
New York

On track

*SIR – Regarding your article on the future of London's transport system, there is no choice to be made between Crossrail and an upgraded London Underground network: London, and Britain, must have both ("Projects at war", May 23rd). The benefits to be had from these two infrastructure projects are inextricably linked. The work to renew and upgrade the Underground will only allow us to keep pace with the demand created by London's long-term growth. It is Crossrail that delivers an additional 10% to rail-based transport capacity, relieving intense pressure on the Tube and other rail services.

With the work under way on both Crossrail and the Tube, what matters now is that we get on and deliver, on time and to budget. We have paid a heavy price for underinvestment in infrastructure in the past. It is not a mistake anyone should contemplate making again.

Peter Hendy
London's transport commissioner
Transport for London
London

Boom boxes

SIR – Your article about making quiet electric-cars louder, and therefore safer so that pedestrians and cyclists can hear them, posed a question: "What sort of noise should electric-powered cars make?" ("The sound of silence", May 9th). As long as the audio output has variable tempo and pitch there should really be no limit to the types of sounds that electric-powered cars can emit. They could produce infinitely variable auxiliary sounds, or vroomtones.

Like ringtones for phones, vroomtones could be offered by third parties. Cities could even offer vroomtone themes so that all of the traffic in the town creates a co-ordinated soundscape. Let us not limit the opportunity for change. Let us make a sound improvement to our environment.

Dan Needham
Victoria, Canada

*Letter appears online only

*Letter appears online only

Russia's economy

A new sick man

Jun 4th 2009 | CHELYABINSK
From The Economist print edition

The crisis is dire, but that does not mean that the Kremlin is about to lose control. On the contrary

TASS



ON A recent Friday night the *beau monde* of Chelyabinsk, the industrial armpit of Russia known during the war as Tankograd, drove out to the edge of town for the gala opening of a new Mercedes dealership. Inside the neon-lit *avtosalon*, half-naked dancers covered in silver paint and goosebumps greeted the city's dressed-up business elite. Girls in sparkling skirts tap-danced. A Vladimir Putin lookalike promised "support". The extravaganza concluded with the guests posing for cameras inside the latest Mercedes, which was unveiled by two long-legged beauties in short black dresses.

Chelyabinsk's gala epitomises the ups and downs of the Russian economy. It was conceived a year ago when the oil price was more than $100 a barrel, the economy was growing by 8% a year and real incomes were rising twice as fast. A construction boom speckled the dreary industrial landscape with new hotels, office towers, restaurants and luxury shops. But by the time the showroom opened the oil price was down to $50, the economy had shrunk by 9.5% year on year in the first quarter of 2009, and industrial output had tumbled by almost 15%. The pace and scale of this contraction are severe even by Russian standards (see chart 1). Yet the impact on the country has so far been limited. It has neither shaken the government nor sparked industrial riots. Valery Gartung, owner of the Mercedes dealership and a member of Russia's parliament, is taking the crisis in his stride. "I would not start building it now. But I could not stop halfway either."

This latest exhibit of Russia's conspicuous wealth is actually sited in Kopeisk, a mining town next to Chelyabinsk where the last mine was shut down in March. Kopeisk's wooden houses are sagging and surrounded by litter; young men drink heavily and chase moonshine with ice-cream. A prison, a cemetery and defunct mines are the landmarks by which people give directions. "Russia is a country of contrasts," says Mr Gartung, philosophically.

Two hours before the opening of his Mercedes dealership, Mr Gartung walks through the old forge-and-press factory where he started as a worker and which he has turned into a family business. Its main customer is a truck plant owned by Oleg

Deripaska, one of the most indebted Russian tycoons. In the past few months the factory's output has fallen by half, as have workers' salaries. From outside the factory looks dreary and doomed. Yet shortly before the crisis it received an international standard certificate that allows it to supply any international firm. Mr Gartung's son, who runs the factory, has installed new machinery. Mr Gartung calculates that he has two years to cut his dependence on the Russian market. He already has a contract with ZF, a maker of car-transmission systems, and is talking to Deutsche Bahn, the German national railway company.



This transformation of Soviet state plants into private firms run by young MBA graduates is perhaps the biggest achievement of the Russian economy over the past two decades. It is far from complete. But it has probably gone far enough to pull businesses like Mr Gartung's through the crisis.

Credit crunchski

The immediate problem for Russian businesses, small and big, is lack of credit. Despite massive injections of liquidity into the banking system, loans are hard to come by. Andrei Bukreyev, a shrewd entrepreneur who heads Chelyabinsk's local small-business association, used to make money by converting military machinery into oil and gas equipment. His new venture involves setting up a barter system. This form of trade, which flourished in the 1990s, has come back with a vengeance. The Chelyabinsk tractor plant was recently offered 3.5m roubles-worth of condensed milk for one of its bulldozers. Apparently the deal fell through because the milk had passed its sell-by date.

The severity of the credit crunch is the price Russia is paying for failing to develop its own financial markets and to tame inflation. The two are connected: ordinary Russians feel life is too short and uncertain to put money into pension funds or insurance companies, and prefer to spend it as quickly as possible. “Nobody in Russia plans for more than two years ahead,” says Peter Aven of Alfa Bank.

The crisis has been compounded in Russia by the economy's past overheating. Although a big chunk of oil revenues was channelled into a stabilisation fund, large state firms and many private ones borrowed heavily from foreign creditors, amassing nearly $500 billion of external debt. Most of the foreign money that flowed to Russia took the form of loans rather than direct investment, which would have required a more hospitable investment climate. To make things worse, the government increased its public spending by nearly 40%. Inevitably the economy, which is constrained by crumbling infrastructure, a dwindling workforce and pervasive corruption, could not absorb this amount of money. Inflation soared to nearly 15%.

Before the crisis, Russia's historically high inflation barely affected firms' borrowing costs. Russian companies and banks financed themselves abroad and interest rates were below the rate of domestic inflation. When the rouble was strong, the exchange rate mattered much more than domestic interest rates, and the central bank targeted the exchange rate rather than inflation. The strong rouble was seen as a proxy for Mr Putin's success; but as Rory MacFarquhar, an economist at Goldman Sachs, points out, it was a currency play and not a store of value.

When foreign credit dried up and the oil price fell, Russia was caught out. After weeks of vainly trying to defend the rouble and bleeding billions of dollars of foreign reserves, the government realised that devaluation was inevitable. Yet instead of letting the rouble float, 21 tiny steps were taken, allowing the rouble to depreciate gradually until it had lost 30% of its value. This may have stopped a run on the banks and shielded Mr Putin's image, but it was harmful to the economy, argues Sergei Guriev, the head of Russia's New Economic School. Instead of lending to businesses, banks used the money the central bank was supplying to boost liquidity to speculate against the rouble, making billions in profits and putting more pressure on the central bank to devalue.

To prevent a massive outflow of capital, the central bank put up its interest rates—just at the time when other central banks, trying to boost their countries' economies, were cutting them. When foreign creditors stopped lending, Russian borrowers turned to the central bank for financing, and the domestic interest rates began to matter. For many Russian firms the cost of money has gone up from 8% to 25%, making capital prohibitively expensive. The economy, deprived of cheap money, has begun to choke.



The government has been pouring money into the economy with one hand and taking it out with the other, argues Yevgeny Gavrilenkov, an economist at Troika Dialog, a bank. So although Russia's anti-crisis fiscal package of 10% of GDP is one of the biggest in the world, he says, it has also proved one of the least effective.

Another reason banks are slow to lend is that most have only a vague idea of how much bad debt they have, and therefore how much capital they will need. Pessimistic forecasts say that the share of non-performing loans could reach 20%. The government is prepared to recapitalise the banks, but has not yet looked properly at their books.

A coat of silver paint

In the past few weeks credit has started to trickle through and inflation has come down slightly, helped by a rising rouble. But bringing inflation down to single-digit figures and keeping it there, as well as clearing up the banking system, requires political will. The government's crisis programme is full of the right words—modernisation, competition, responsible spending, the evils of populism. But to implement even half of this programme would require dismantling Russia's political system.

During the boom years Vladimir Putin, then president, took full credit for the rising commodity prices and cheap credit that spurred economic growth. The gradual destruction of Russia's institutions and democratic freedoms, however imperfect, seemed to have little bearing on the boom. But the crisis has laid bare the flaws of Russia's politics, which has failed to diversify the economy, create a domestic financial market or build institutions. The Russian economy is today more dependent on oil and gas than it was even ten years ago. Corruption, an old vice, has become the norm. The Kremlin's policies have choked competition, both political and economic.

Since October 2004 the Kremlin has been appointing governors, rather than letting voters elect them. It then takes away the lion's share of their taxes and sends some back as subsidies. This works when there is plenty of money sloshing around, but not when it is scarce and decisions need to be made fast. "We need more freedom because we know how to support our local industry best," says one official in Chelyabinsk.

The Kremlin fears (often reasonably) that money will be stolen by local bosses. Such is the level of corruption that many of its decisions never get through the system. But it has only itself to blame. By cancelling regional elections, it has killed any competition for better governance.

To contain social discontent, the Kremlin puts heavy pressure on regional governments and firms not to lay off people or close plants, even if they are dinosaurs. A vast partly state-owned Chelyabinsk tractor plant, which narrowly avoided bankruptcy in 1998 and is run by its former Communist boss, looks like the site of an industrial horror film. It has 20,000 workers and few orders. Outside an idle workshop, against a backdrop of rusty pipes, several elderly women are taking part in a government-funded public-works scheme. They are painting the crumbling kerbs with silver paint.

State interference does much to hold back Russia's productivity. As many Russian developers know, few projects can go ahead without kickbacks to local authorities or utilities. In many cities the mayor is also the main developer. It is common, too, for police to extract bribes from retailers. "The system rewards not the ones who are most effective, but the ones who are better connected," says Andrei Chertov, a businessman in Chelyabinsk. "We don't need more help from the government: we need less interference."

This is a view supported by a recent study by McKinsey, a consultancy. It looked into five sectors of the

Russian economy and found that, although productivity has improved over the past decade, it is still only 26% of American levels. Bureaucracy and corruption are stifling it. It takes six times as long to obtain construction permits in Russia as in Sweden and, despite cheaper labour and land, the cost of building a distribution centre is a third more expensive than in London, according to McKinsey. When profit margins were 25%, construction firms could afford to pay off bureaucrats. Now they cannot.

Much of Russia's growth over the past decade was achieved by using existing capacity more efficiently. But this slack has now been taken up. The present anti-crisis measures are often geared more towards subsidising the inefficient. A prime example is Avtovaz, Russia's infamous Lada-maker, which has been losing market share to foreign producers. Mr Putin has given it a cheque for 25 billion roubles and promised to pay for transporting Lada cars through six time-zones to Russia's far east, where most people long ago ditched Ladas for second-hand Japanese cars. When Mr Putin raised import tariffs for what has become the staple of the local economy, the people of Vladivostok took to the streets. To suppress the protests the Kremlin had to fly in riot police from Moscow.

Weaker oligarchs, stronger state

In total the government promised more money to Avtovaz, which employs 100,000 people, than to the millions of unemployed across the country. The closure of Avtovaz would lead to social unrest, argued Russia's finance minister, Alexei Kudrin. But this is not the only reason for the government's help. Avtovaz is owned by Rostekhnologii (Russian Technologies), a powerful state military and industrial corporation headed by Sergei Chemezov, an old friend of Mr Putin. The proliferation of these opaque quasi-state structures is one of the most alarming signs that a corporatist state is emerging.

Last year Mr Chemezov lobbied successfully for the inclusion of 500 companies in his corporation—a covert privatisation, says Mr Kudrin. Many of them are heavily indebted and unprofitable, so Russian Technologies is asking the government for help. While many private firms are struggling to get credit, Russian Technologies has struck a deal with the country's largest state banks: they will simplify lending to Russian Technologies and restructure the debt of its companies. In return, Russian Technologies will advise the banks how to manage private assets that could fall into their hands. It may then buy some of these assets.

It is already eyeing Norilsk Nickel, the world's largest nickel producer and a centrepiece of the 1990s loans-for-shares schemes. Some 40% of Norilsk's shares are mortgaged to state banks, and Russian Technologies has already nominated its representative to Norilsk's board. This could lead to a reversal of the 1990s loans-for-shares deals. Then, the cash-strapped government gave shares in natural-resource companies to a group of oligarchs in return for loans. Now the cash-strapped oligarchs could be forced to give up control in return for state loans.

Although some tycoons have already mortgaged their stakes, no large companies have changed hands. Sceptics say the reason for this may not be the Kremlin's faith in the free market and private ownership, but the state's reluctance to take on the firms' foreign debts. The Kremlin had feared at first that strategic assets would fall into foreign hands. In fact, foreign banks have scant appetite for owning Russian industrial assets and not much choice but to restructure the firms' debt. Once the process is complete, there may be little to stop Russian state corporations from taking over the most attractive assets. This could result in a massive transfer of property towards monopolistic quasi-state conglomerates controlled by a narrow group of the Kremlin's friends.

The political fallout from the crisis is now the most hotly debated subject among Moscow pundits. A few months ago, Russia's liberals predicted mass protests across the country in the spring. Towns dominated by just one factory or industry—there are more than 400 of these—would be the first to erupt. This prediction has so far been wrong, just as it was wrong during the 1998 financial crisis and, before then, in the early 1990s. A few protests have occurred, some even featuring anti-Putin slogans; but with the exception of Vladivostok, they have been small.

TASS



Struggling but not about to riot, yet

The main reason for this is that Russians, who have lived through many crises, are tolerant and adaptable and do not expect much from their government. For many, the crisis which began with the collapse of the Soviet Union in 1991 has never ended; this is simply another nasty turn. Unless the authorities push people too far, as they did in Vladivostok, mass protests seem unlikely. But Mr Putin, who remains the most important man in Russia, is also extremely adaptable and has trodden carefully. He has not threatened large companies recently and has shown kindness to small ones.

Andrei Illarionov, a former economic adviser to Mr Putin who is now one of his fiercest critics, argues that, despite its weak institutions, the all-embracing corruption and distorted competition, the Russian economy more or less works. It has low taxes and liberal regulations, which allow private firms to survive and make profits, even after paying bribes. Moreover, Russia's hostile environment has forged strong survival instincts in Russian businessmen such as Mr Gartung. For all the threats and bullying, Russian entrepreneurs will continue do business for as long as the state physically lets them.

With reserves running at $400 billion, Russia has enough cash to finance its budget deficit. Yet much will depend on the price of oil and gas. Russia's budget is calculated on an oil price of $41 a barrel. Anything above that figure means the deficit will be less and the reserves higher. A recent rise in the oil price to nearly $70 has calmed the nerves of Russian elites, pushed up the rouble and sparked a rally in the stockmarket. Kirill Rogov of the Russian Institute of Economy in Transition says that such a price may not be enough to spur rapid economic growth, but it is enough to preserve the current political system and lull Russia into stagnation.

If the oil price again falls to $30, however, things might look very different. With less money to spread among friends, the fight between clans will intensify. A poorer Russia will not be a friendlier one. To hold on to power, the Kremlin may try to use the idea of an external threat to mobilise the country. But with most institutions consumed by corrosion, it may have to resort to harder repression.

The future of health-care reform

The moment of truth

Jun 4th 2009 | WASHINGTON, DC
From The Economist print edition

Congress is about to tackle health care, for the first time since the debacle of 1993-94. Do the reformers stand a chance this time?

Corbis



A PICTURE of a handsome young man riding a bucking bronco hangs in the office of Max Baucus. The Democratic senator from Montana was a novice in the rough world of rodeo three decades ago, but when challenged he did not hesitate. The nerve-racking ride that ensued foreshadowed his current wild adventure. As chairman of the Senate's Finance Committee, this relatively unknown figure has emerged as a central force in the struggle over health reform.

Barack Obama has made health care a domestic priority. But rather than designing his own plan, he is leaving it to Congress to take the lead by crafting a bill which he hopes to sign before year's end. Last month he gathered insurance and health-industry executives at the White House. This week he called in leading Democratic senators working on the issue. And on June 6th Organising for America (a political group that sprang from Mr Obama's presidential campaign) plans to raise the heat further. Its website declares that "in thousands of homes across the country, we'll gather to launch our grassroots campaign for health care."

For the first time since Hillary Clinton's failed attempt of 1993-94 Congress has taken up health reform in earnest. On May 20th Senator Tom Coburn from Oklahoma and three fellow Republicans (including the up-and-coming congressman Paul Ryan) introduced their version of a health-reform bill. On June 2nd Judd Gregg, a conservative Republican senator, introduced another. An innovative earlier bill by Ron Wyden, a Democratic senator, has a number of Republican co-sponsors. All this, says Mr Gregg, proves that his party is willing to participate in, rather than obstruct, efforts at health reform this time round.

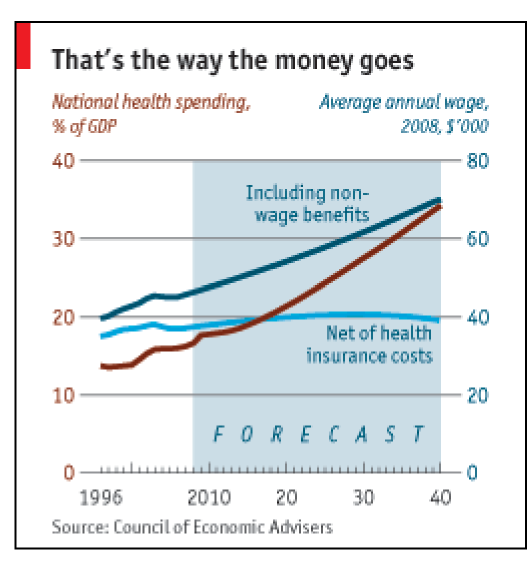
That pledge of bipartisanship may not survive. And it may not matter much, for Mr Obama has made it clear that he will sign health reform as part of the budget reconciliation process if necessary—a controversial manoeuvre that would need only 50 votes in the Senate, not the normal 60. So the reins are firmly in the hands of two senior Democrats: Mr Baucus and Edward Kennedy, the head of the Senate's Health Committee. Both are expected to deliver their own bills this month. Although Mr Kennedy's is expected to tilt further to the left, insiders expect that the two will be merged fairly easily. That hybrid bill will be the one that matters.

For much of the presidential campaign, the debate on health reform seemed to hinge on cost versus coverage. John McCain appeared more concerned about reining in runaway health inflation, while Mr

Obama seemed more concerned about extending coverage to the nation's uninsured. Confronted by the financial crisis, however, the new president has made it clear that he now wants to tackle both objectives. Christina Romer, the head of Mr Obama's Council of Economic Advisers (CEA), believes that "there are linkages in both directions".

She points out that extending insurance to all can save money because tens of billions of dollars are spent today on the uninsured, who get late and expensive care in emergency rooms. In a new report the CEA argues that any reform that slowed the annual growth rate of health costs by 1.5% would boost America's economic output by over 2% and increase the average household's income by $2,600 in 2020. The CEA analysis suggests that universal coverage would lead to a healthier, more mobile and more productive workforce.

Those forecasts are probably a bit rosy, but the report also spells out the implications of failure. The CEA forecasts that health spending, which will account for perhaps 18% of America's GDP this year, will soar to over one third of output by 2040. More politically salient is its warning that health inflation will squeeze wages hard as an ever larger share of compensation comes in the form of health insurance (see chart). A new report from the Urban Institute, a think-tank, adds that doing nothing means the number of uninsured will grow from perhaps 49m today to 62m in a decade. Taken together, all these factors explain why there is such momentum behind health reform.



Details please

But what will the reformers actually come up with? Although the final details will not be known until the Baucus and Kennedy bills are unveiled, a few important elements are already clear. Despite the hopes of some, there is, in the words of Mr Baucus, "no chance" of a single-payer system advancing in legislation this year. "We're not Sweden, Britain or Canada," he says, "and we'll come up with an American solution" that will involve both government and the private sector.

That points to a fight over some form of government-run insurance plan. Many on the left, including Mr Obama, argue that reform must include a "public plan" that would provide an alternative to rapacious private insurers. But industry types are convinced that any government plan would enjoy unfair advantages, like implicit government guarantees and huge pricing power, and suspect it would serve, in Mr Gregg's words, as "a stalking horse for a single-payer system".

Who is right? Neither side, perhaps. Andrew Stern, the head of the Service Employees International Union and an influential labour boss, believes a compromise is possible. But Douglas Elmendorf, the head of the non-partisan Congressional Budget Office (CBO), observes wryly that "the closer a public plan is to a private plan, the less the gain." Old lags of health reform suggest that some in Congress want to pick a fight over the public plan issue to distract from other, bigger reforms in the works.

One of those is the once controversial notion of an individual "mandate" to purchase insurance. Without such a requirement in place, too many healthy people choose not to pay for insurance. This leaves less money to cover the sick, and some of the uninsured inevitably turn up at emergency rooms. A mandate would need to be coupled with comprehensive insurance-market reforms. This would involve stronger regulation of insurance firms to force them to offer insurance to everyone, the creation of central exchanges for buying insurance, and subsidies for the poor.

Pioneering reforms in Massachusetts have helped win over many liberals to the mandate idea. Mr Kennedy's bill is likely to be an expanded version of those reforms. And a U-turn by the industry is also winning over Republicans. The health insurance lobbies now say they are willing to live with rules forcing them to accept all patients without regard to pre-existing medical conditions—but only if this is accompanied by an individual mandate. Mr Gregg's proposal has just such a requirement, while Mr Ryan's bill has a similar proposal for "automatic enrolment" of people into private insurance schemes.

The other surprising area of possible agreement concerns the most important question: how to pay for these reforms, which may cost $1 trillion or more over the next 10 years. The biggest available pool of money is the tax exclusion granted on employer-provided health insurance. Jonathan Gruber of the

Massachusetts Institute of Technology thinks eliminating this distorting giveaway would net some $2.3 trillion over the next decade or so. When Mr Wyden proposed abolishing that tax break to pay for universal coverage in 2006, many thought the notion outlandish, but it now looks likely to happen, at least in part.

Mr Stern warns of a “middle-class riot” if any such reform is seen as a tax increase on working folk with insurance. But as everyone involved in reform piously vows their plan will be “budget neutral”, this cow is suddenly no longer so sacred. Mr Ryan’s bill would end the tax break for the most expensive of these plans. A cap on this benefit is proposed by Mr Gregg, who reckons this is “the most logical way to raise money.” Mr Baucus also supports capping this perk, though not abolishing it. One problem for Mr Obama is that, during the presidential election, he excoriated Mr McCain for exactly this idea. He also opposed individual mandates. This week, though, he hinted in a letter to Democrats at a compromise on both issues.

There are many other good ideas to cut costs making the rounds. They range from investing in prevention to expanding the use of health information technologies to rejigging incentives so that doctors get paid for health outcomes rather than for treatments. Alas, most of these ideas will not get counted by the Congressional Budget Office, which is charged with evaluating such proposals, as savings, either because their pay-off is too uncertain or because they require short-term investments that pay out far off in the future.

Three decades ago, as he got on that bucking bronco, the Western senator was given this advice: “Don’t look at the ground, because if you do that’s where you’re going to end up.” There has been an air of civility and bipartisan co-operation around health reform so far, but it may not last long. Mr Baucus should keep looking forward and hang on tight.

The murder of George Tiller

Life v choice

Jun 4th 2009 | WICHITA, KANSAS
From The Economist print edition

A crime that underlines an unbridgeable divide

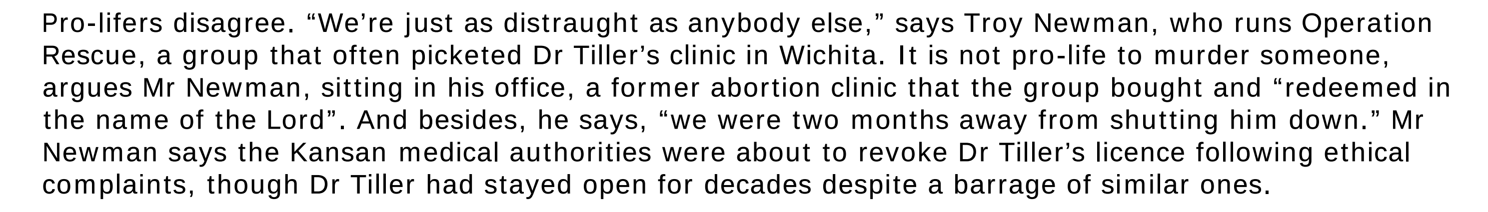
AP



GEORGE TILLER was helping out at his local church in Wichita when he was murdered. Witnesses say a man walked up, shot him in the head, threatened bystanders and fled in a car. Three hours later, the police arrested Scott Roeder, an anti-abortion zealot. On June 2nd he was charged with murder.

It was the first killing of an American abortion doctor in more than a decade. It came less than a month after Barack Obama, addressing students at a Catholic university, called for Americans on both sides of the abortion debate to seek common ground, perhaps by working together to reduce the number of unwanted pregnancies. Dr Tiller's slaying reminded Americans how far they are from achieving their new president's dream.

For many pro-choice campaigners, the murder was evidence that inflammatory rhetoric begets violence. Dr Tiller was one of the most frequently denounced doctors in America—one of a handful who offer very late-term abortions. Bill O'Reilly, a popular cable pundit, fulminated about "Tiller the Baby-Killer" on at least 29 of his shows, according to Salon, an online magazine. Such "demonising language, at times, has consequences," says Peter Brownlie, the head of the Kansas and mid-Missouri arm of Planned Parenthood, a pro-choice group.



Pro-lifers disagree. "We're just as distraught as anybody else," says Troy Newman, who runs Operation Rescue, a group that often picketed Dr Tiller's clinic in Wichita. It is not pro-life to murder someone, argues Mr Newman, sitting in his office, a former abortion clinic that the group bought and "redeemed in the name of the Lord". And besides, he says, "we were two months away from shutting him down." Mr Newman says the Kansan medical authorities were about to revoke Dr Tiller's licence following ethical complaints, though Dr Tiller had stayed open for decades despite a barrage of similar ones.

Pro-life groups worry that Dr Tiller's murder will make the public think pro-lifers are violent. "This guy, I'd never heard of him [before this week]" complains David Gittrich of Kansans for Life. Reports suggest that the murderer acted alone. The suspect had a history of mental illness, according to his family. In the 1990s he associated with anti-government militia groups and was caught with bomb-making materials but freed on a technicality. More recently, he became obsessed with abortion and apparently posted comments on pro-life websites likening Dr Tiller to a Nazi.

Pro-choice groups fear that Dr Tiller's murder will deter doctors from providing abortions and women from seeking them. It will surely scare those who offer abortions in the third trimester, as Dr Tiller did, but it will not come as news to such people that they have enemies. Dr Tiller was shot in both arms in 1993. His clinic was bombed in 1986, blockaded in 1991 and repeatedly vandalised. He hired a bodyguard, but was defenceless on the day he was murdered.

To activists, abortion is either murder or the inalienable right of every woman. Despite Mr Obama's soothing words, it is hard to find common ground between those two positions. The public are split, but trending conservative. For the first time last month a Gallup poll found that a majority (51%) of Americans call themselves pro-life, up from 33% in the mid-1990s. Only 42% call themselves pro-choice. But these labels hide a lot of nuance. Most Americans would restrict abortion, but not ban it completely.

To ardent pro-lifers, the law today is immorally lax. Kansas, for example, allows late-term abortion only if two doctors agree it is necessary to save the woman's life or prevent "substantial and irreversible" harm to "a major bodily function". This has been interpreted to include damage to mental health, which pro-

lifers say creates a big loophole.

Pro-choice groups say they exaggerate. Most abortions are done early, sometimes by means of a pill. Only about 1% occur after 21 weeks. Pro-lifers retort that this is still a huge number. Some 820,000 legal abortions were reported in 2005. The Guttmacher Institute, a pro-choice think-tank, puts the true total at 1.2m. That is down a quarter since 1990; still, more than a fifth of American pregnancies are terminated. Meanwhile, in Washington, DC, the Senate is preparing to grill a Supreme Court nominee whose views on abortion are unknown. Expect fireworks.

Primaries in Washington state

The centrist north-west

Jun 4th 2009 | SEATTLE
From The Economist print edition

What explains the remarkably moderate politics of one state?

WE IN Washington state "get our business done", says Lisa Brown, a Democrat who leads the state's Senate and may be a future candidate for governor. In contrast to California, say, Washington passes its budgets on time. Districts are drawn in a neutral process. Party machines are weak, heresy condoned. Ms Brown's own Senate caucus recently grew by two Republican defections.

Rob McKenna, the state's boyish attorney-general and a likely Republican candidate for governor, also declares himself proudly centrist. Like everybody he knows, he never votes a straight ticket: "I always voted for a state auditor who is a Democrat, because he's good," he says.

And so it goes. Stuart Elway, a leading pollster, says that moderation runs deep in a state that voted twice for Ronald Reagan and then for Michael Dukakis. Washington leans left to the west of the Cascade mountains, right to their east, but very few of its political outcomes are extreme.

In polarised and dysfunctional states such as California, the search is on to find the reason for this moderation in order to import it. There are several factors, but one stands out. It is, says Sam Reed, Washington's secretary of state, the state's long tradition of holding non-partisan primary elections. Because independents, Democrats and Republicans vote on the same ballot, "you do tend to get people who fit the centre of the electorate," he says. It is a tradition, however, that Washington state has been forced to refine in recent years.

Washington's old system, adopted in 1935, was a "blanket primary". Voters were not required to declare a party affiliation and instead voted for one candidate for each office, no matter from which party. The leading vote-winner from each party for each office then went on to contest the general election.

Getty Images



Sensible in Seattle

For 65 years Washington carried on merrily, with only Louisiana and Alaska trying something similar, until California copied the system, hoping for a bit of moderation. California's party bosses were horrified and sued, and in 2000 the Supreme Court declared blanket primaries unconstitutional. Its reasoning was that parties are "associations" (like, say, the Rotary Club), and that the constitutionally-guaranteed freedom of association includes the right of parties to control their own nominating processes. The decision also threw out Washington's blanket primaries, even though voters loved them.

Mr Reed then had the idea of changing the primaries so that they ceased being a "nominating process" and became instead a simple mechanism to find the top two vote-getters. In such a system, a Republican and a Democrat might face off in the general election, or two Republicans or two Democrats. And Washingtonians could again avoid declaring an affiliation.

Party bosses fought that idea bitterly. In 2004, for the first time since the 1930s, Washingtonians could vote in only one party's primary, and they hated it. But Mr Reed, increasingly popular, kept fighting all the way back to the Supreme Court and eventually won. At last, in 2008, Washingtonians had their non-partisan primaries back. As advertised, the winners were moderates, and some races indeed ended with two Republicans or two Democrats in the run-off.

Daniel Evans, a three-term governor of Washington in the 1960s and 1970s and the epitome of moderation admits that it is too early, after just one cycle, to say that "top-two" primaries always lead to

to centrism. In places with gerrymandered districts, the outcome could even be more polarisation. But so far the system looks promising, and California is right to consider it. Maybe the country should, too.

Soaring gun sales in Arizona

Planning for the worst

Jun 4th 2009 | PHOENIX
From The Economist print edition

Gun-owners are on the defensive

Corrections to this article

AT THE National Rifle Association's 138th annual convention, held this year in Phoenix, Arizona, 65,000 people poured through the doors. They admired the fancy firearms, snacked on grilled buffalo and were happily recruited by shooting associations. Tom Power, of the Texas Gun Collectors Association, says membership has been soaring since Barack Obama took office. Bill Bachenberg, the owner of a shooting range near Allentown, Pennsylvania, has been registering 400 new members a month. "American gun-owners don't trust this administration," he says.

Reuters



Get 'em while you can

American gun sales surged after Mr Obama was elected president. He had a voting record of raising the tax on guns and ammunition by 500%, and, on top of that, he hinted during the campaign that he might restrict gun sales and create a national registry of gun-owners. The election was seven months ago, and the buying spree has not flagged since. Data released by the FBI's National Instant Criminal Background Check System, which serve as a gauge of actual sales, reported 1,255,980 checks in April 2009: a sixth monthly increase, and a 30.3% increase from the 940,961 reported last April.

Concealed-weapon permits are up, too. Ohio, Kentucky, North Carolina and Montana all report a rise in licences issued; Ohio saw a 139% increase in the first quarter of this year over last. Meanwhile, classes on gun rules in Phoenix are booked solid for months, ammunition is sold out, and gunmakers and dealers alike are scrambling to keep up with demand.

Sun Devil Manufacturing in Mesa, for example, which makes semi-automatic rifles for $1,000 or so less than its competitors, is running three production shifts a day. Guns Etc, a shop in the Phoenix suburb of Chandler, is selling 50-70 handguns a week, compared with 30 before the election, and sales of AR-15 and AK-47 semi-automatic rifles have nearly doubled. On a Friday afternoon the store is packed with men, retired and young, buying revolvers, semi-automatics and shotguns. Young mums browse the daintier pistols.

Are they all panicking? They don't think so. Mr Obama has said he favours a ban on assault weapons, of the sort Bill Clinton brought in in 1994 (it has now lapsed). Gun-owners also feel Mr Obama is soft on crime, and fear that the recession will bring social and economic collapse. Ron Sega says his customers worry about thugs looting grocery stores for milk and mothers being robbed. "People want to be ready and armed, should things go south."

In several states, gun laws are being relaxed. One bill working its way through the Arizona legislature would allow those with a concealed gun permit to enter, armed, into restaurants serving liquor. And a new state law allows people to carry loaded guns, including semi-automatic weapons, into state parks.

At a restaurant in Chandler, waitresses worry that combining weapons with alcohol, even with restrictions, seems foolhardy. But its sponsor is confident that the bill will pass. Momentum is with him. More shooting ranges are due to open soon in Arizona and elsewhere, to cater to more families who wish to be armed, trained and ready for anything.

Corrections: 65,000 people visited the NRA convention in Phoenix, not 47,000. And the booked-out classes in the same city deal with gun rules, rather than shooting. These corrections were made on June 5th 2009.

Gun laws in Tennessee

Bread, milk, handgun

Jun 4th 2009 | NASHVILLE
From The Economist print edition

Stocking up on the necessities of life

“I EAT, therefore I hunt”, reads a camouflage T-shirt on sale at Gun City USA, a small gun store in Nashville. But the rows of military-style assault rifles and display cases showing semi-automatic handguns suggest that most of Gun City’s clientele are not looking to shoot game.

Even in a recession, business is booming. “It has never been better,” says Dan McGlamery, an affable salesman who owns roughly 90 guns and has a loaded .45 calibre Kimber handgun on his belt, just in case. “In tough times like these, people need the necessities—bread, milk, water—and I think guns for protection go along with that.”

Tennessee is awash with guns. More than 1,300 licensed vendors sell them. Residents who have not committed a felony are allowed to carry a handgun in most public places, concealed or not, after they have taken a safety course. A recent law banned the list of permit-holders from public scrutiny after a newspaper website published it, revealing a handful of felons. As of last month, 222,000 Tennesseans hold permits to carry guns, up from 181,000 a year ago.

This spring the state legislature proposed a clutch of bills allowing people to carry guns in previously restricted public areas. One bill allows handguns in bars and restaurants, as long as the owner sanctions it and the gun carrier does not drink alcohol. Another permits handguns in state and local parks. Both passed by wide margins. A third bill allowing judges to carry handguns, even in the courtroom, awaits a final vote and is expected to pass.

Phil Bredesen, the governor, is not so keen. On May 28th he vetoed the bill allowing guns in bars and restaurants. This was brave; but 25% of legislators have gun permits and Mr Bredesen’s veto was promptly overridden.

Opponents claim that the laws will increase gun violence, especially in bars. They can point to grim statistics: roughly 950 people were killed by guns in Tennessee in 2006, according to the National Centre for Injury Prevention and Control.

But “the only person that stops a bad person with a gun is a good person with a gun,” says Andrew Arulanandam, an NRA spokesman. More pro-gun legislation is planned for next year in Tennessee. “In my opinion the only place where people should not be allowed to carry guns is in prison,” says Dwayne Hayes, a firearm instructor. “As for churches and restaurants, I don’t see a problem with that.”

Statewatch: Indiana

A hobbled march forward

Jun 4th 2009 | FORT WAYNE, INDIANA
From The Economist print edition

Finding new things to do in the depths of the rustbelt

STEVEN CHU, the energy secretary, who specialises in atomic physics, travelled on June 2nd to Fort Wayne, Indiana, which specialises in pickup trucks. General Motors (GM) had declared bankruptcy the day before, and Mr Chu was one of many cabinet members sent to cheer up the rustbelt. He toured a local firm that makes geothermal heat pumps, then announced $50m to promote such technology. On the far side of town Orval Plumlee, the president of the local United Auto Workers, was too busy to leave the union hall. Panicked workers had been calling him non-stop.

As a manufacturing giant topples, Indiana finds itself in an odd position. GM's bankruptcy will devastate Michigan, the rustbelt's feebly beating heart, and Indiana will suffer too. The state had about 80,000 workers in the car and parts manufacturing industry in 2007, the most recent numbers from the Bureau of Labour Statistics. But Indiana is not typical of the region. Before the recession the state was bustling, its unemployment rate was below the national average. Mitch Daniels, the governor, may have to tap state reserves to pass a budget, but on June 1st he insisted that "Indiana remains in vastly better shape than most states and any of our neighbours." Its economy has made progress, with one foot stuck in the past and a toe dipped in the future. It is a promising stance, though a wobbly one.

Indiana is still a laggard in many areas. Only 21% of those aged 25 and older have a college degree, compared with 28% across the country. Hoosiers' average income has failed to keep up with America's, sliding from 32nd place among the states in 1997 to 40th a decade later.

Indiana's economy is more dependent on manufacturing than any other state. But as the Big Three's clout has waned, Indiana has evolved accordingly. Less powerful unions and ample foreign investment make the state what Morton Marcus, a prominent local economist, calls "the middle finger of the South thrust into the North." Indiana's output of car and parts manufacturing grew by 31% from 1997 to 2007. Michigan's shrank by 20%. The day before GM's chief executive first asked Congress for a bail-out, Indiana celebrated the dedication of a Honda factory.

Indiana stands out in other respects, too. Unlike blighted Detroit, Indianapolis is a lively centre, with sports stadiums and a fine symphony orchestra. Each year the Indy 500 car race draws 300,000 visitors. Mr Daniels, meanwhile, is an excellent manager. He earned the state its first AAA credit rating and has sought new firms by keeping taxes low and investing in infrastructure. Though every state wants to be a hub for life sciences, Indiana really is one, home to pharmaceutical giants such as Eli Lilly and medical-device manufacturers such as Zimmer. Life sciences accounted for 23% of all job growth from 2001 to 2007.

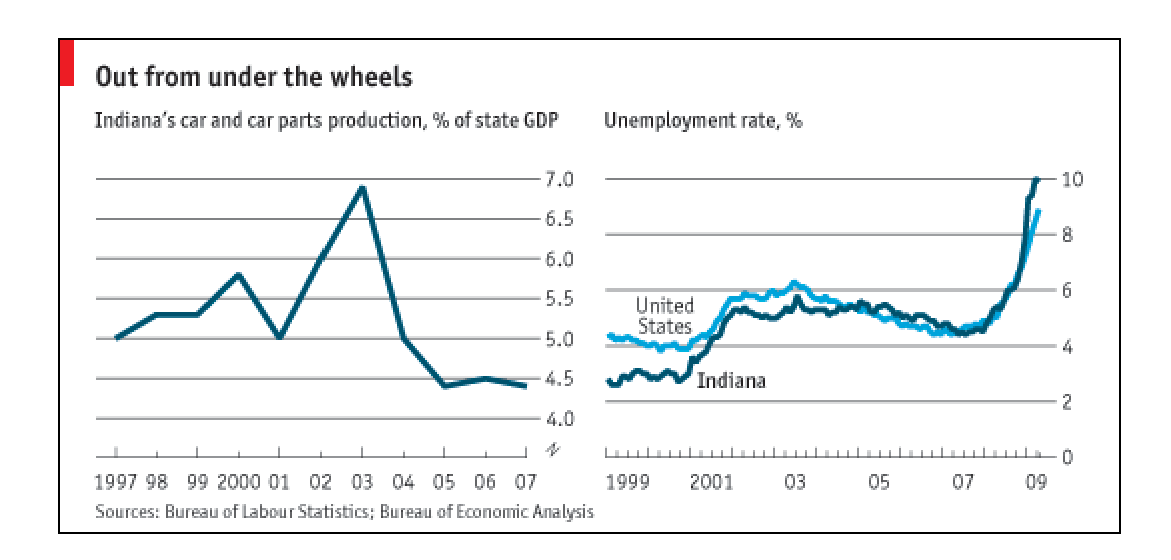
Corbis



What will he do now?

However, the recession has knocked Indiana backwards. Lay-offs in manufacturing and construction helped push the unemployment rate from 4.5% in December 2007, the start of the national recession, to 9.9% in April. Northern Indiana has endured the most extreme turn of fate. In parts of this lush country the world's pace slows to a trot, with horses pulling buggies of men with beards and women with bonnets. But the long arms of the recession touched even the Amish, lured to the local recreational-vehicle (RV) industry by good wages. As the RV industry collapsed Elkhart County's unemployment rate shot from 4.8% in December 2007 to 16% a year later, a leap so big that Barack Obama went there for his first trip as president. GM's fall begins a new chapter of uncertainty. One plant in Indianapolis will close. Fort Wayne's factory is among those that will stay idle for the summer. Small suppliers are likely

to suffer most.



A main challenge is to help workers from the old economy adjust to the new. Spring enrolment at Ivy Tech, Indiana's system of community colleges, was up 19% over last year. A new training centre in Warsaw, south of Elkhart, is packed each day. At a recent class men huddled around a whirring machine, learning the numerical control skills needed in the world of advanced manufacturing. Shane Albright thinks Warsaw's orthopaedics firms are "probably more stable" than the RV industry that sacked him last year. It is unclear, however, whether local companies can absorb so many new workers. The growth of the life-sciences industry is promising, but it employs less than 2% of Indiana's workforce. And even with more training, there may be a mismatch between workers' skills and the sort of jobs available.

There are promising signs, nevertheless. David Johnson of BioCrossroads, a private effort to advance life sciences, is working with Ivy Tech and local firms to better align training programmes with the industry's needs. An electric-car company is seeking a federal grant to build a factory in Elkhart County. Old Studebaker buildings near Notre Dame are being replaced by a nanotechnology research park. Mr Daniels is not discouraged. The recent downturn, he says, "is like being the best-looking girl in school, then they called off the prom. But the music will start again."

Lexington

Blue-collar America

Jun 4th 2009
From The Economist print edition

Down, but not necessarily out

Illustration by KAL



THERE is nothing unusual about companies becoming symbols. The name Harley-Davidson automatically suggests the open road and live-free-or-die machismo; FedEx instantly evokes just-in-time delivery and global linkages. But few companies become symbols, as General Motors did, not just of a mood or a business concept but of an entire way of life.

At the height of its success, GM was proof of capitalism's ability to deliver the American dream to the average Joe. Young men could walk onto the assembly line fresh from high school and live a life that was the envy of most of the world. They earned enough to support a wife and family; the company provided them with top-notch medical care; they could retire with full benefits after just 30 years of work. In the mid-1950s Detroit had the highest median income and the highest rate of home-ownership of any American city.

Today GM's bankruptcy is a symbol of the travails of those same workers. Few working men can support their families without their wives working. Even fewer can expect to retire after just 30 years on the job. Detroit has seen its population collapse from 1.85m in 1950 to 917,000 today. That number will surely shrink further as GM implements its plans to close down another half-a-dozen factories and sack another 20,000 workers. A city that was once a symbol of working-class home-ownership is already full of boarded-up houses and abandoned lots.

The current recession is hitting blue-collar Americans much harder than the masters of the universe on Wall Street who have grabbed so many of the headlines. Almost 6m jobs have been lost since the recession began in late 2007. About 70% of those job losses are accounted for by blue-collar Americans, and most of them are men. The unemployment rate in construction, for example, is around 19%.

This comes on the heels of 30 dismal years. Blue-collar wages have been almost stagnant since the days of Jimmy Carter; and for men they have declined. Julia Isaacs of the Brookings Institution calculates that, between 1974 and 2004, median wages for men in their 30s, adjusted for inflation, fell by 12% from $40,000 to $35,000, at a time when median female wages were rising.

Blue-collar man has also seen his political influence wither. Back in the 1930s and 1940s, the Roosevelt coalition rested on a powerful alliance of workers by hand and brain. Ronald Reagan's successful appeal

to working-class Democrats from the 1980s onwards for a while restored the clout of blue-collar voters, as both parties battled to secure their loyalty. Those blue-collar folk turned out to hold the balance of electoral power.

But the 2008 election revealed that this competition had become a charade. Sarah Palin, the hockey-mom candidate, issued repeated appeals to Joe Six-pack. Hillary Clinton presented herself as the candidate of "hard-working Americans" against Barack Obama and his army of eggheads. But Joe Six-pack concluded that he had been given little by the Republicans other than an endless culture war. And Mr Obama triumphed where previous pointy-headed candidates such as George McGovern had failed. The truth is that the Democratic Party is now much more a party of educated professionals than a party promoting the interests of the working class.

It is hard to relate this story without feeling sympathy for blue-collar America, and hard not to hope that Mr Obama will do something to improve the lot of those voters with whom he found it so tricky to communicate during the election. He certainly claims that reducing income inequalities and filling the gaps in America's health-care system are at the heart of his domestic agenda, though these will be of more benefit to poor people than to blue-collar ones. But it is worth keeping two things in mind.

The first is that the foundations of blue-collar America have all crumbled. Global competition, first from Japan and now from almost everywhere, has transformed manufacturing. Even shop-floor workers are expected to work with their brains as well as their hands, as flexible production replaces mass production. And a growing number of women expect to work. In fact, the golden age of blue-collar man was the product of a peculiar set of circumstances, when Europe and Japan were on their backs, mass-production ruled in the factories and a small number of companies could dominate the American economy.

More than scraps

The second is that those blue-collar workers bear much of the responsibility for their own fate. This is particularly true in the car industry, which tended to set the pattern for much of the rest of the American economy. Trade unions frequently hampered their industries with rules that blocked more flexible and productivity-boosting manufacturing techniques (the United Auto Workers' book of work rules ran to 5,000 pages). They also imposed unsustainable costs on their industries. In 1970 400,000 car workers—one in every 200 workers in America—went on strike for two months in order to wring job-destroying concessions out of GM. John Updike's Harry Angstrom passed a hard verdict on this sort of self-indulgence in "Rabbit is Rich": "Seems funny to say it, but I'm glad I lived when I did. These kids coming up, they'll be living on table scraps. We had the meal."

But there is still hope for blue-collar workers as long as they are willing to learn from the calamity that is General Motors. Plenty of manufacturing companies, even carmakers, have flourished at a time when General Motors has floundered. And plenty of women today enjoy opportunities that were denied to their mothers and grandmothers. Blue-collar Americans may not be able to gorge themselves as their predecessors did. But that does not mean that they will be doomed to live on scraps.

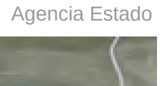
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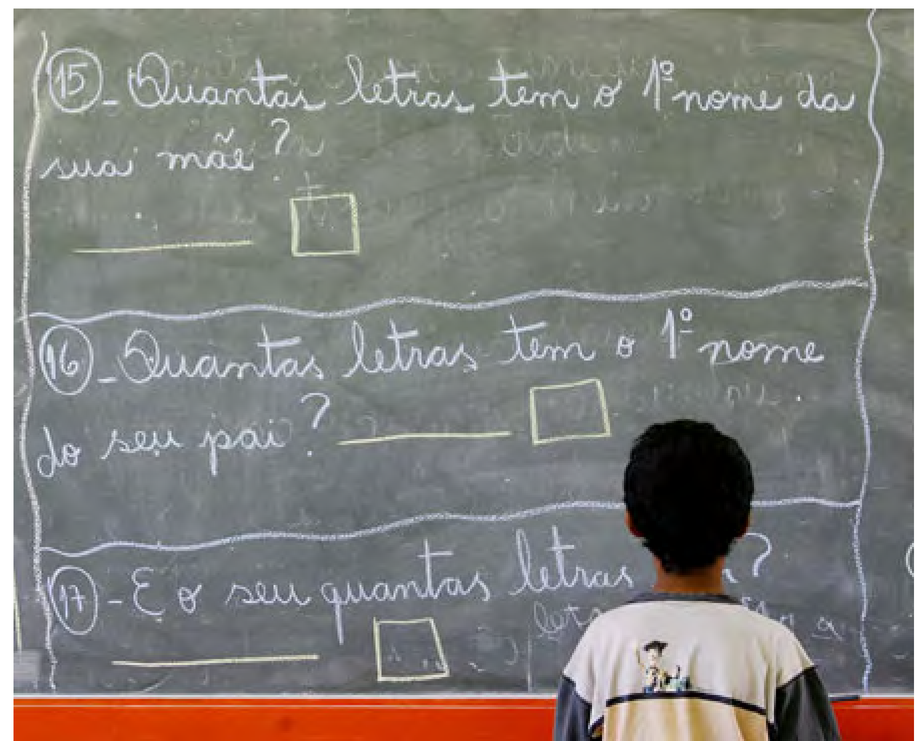
Brazil's poor schools

Still a lot to learn

Jun 4th 2009 | SÃO PAULO
From The Economist print edition

Brazil’s woeful schools, more than perhaps anything else, are what hold it back. They are improving—but too slowly


Agencia Estado



GOD may be Brazilian, as citizens of South America’s largest country like to say, but he surely played no part in designing its education system. Brazil has much going for it these days—stable politics, an open and fairly harmonious society, an economy that has remembered how to grow after decades of stagnation—but when it comes to the quality of schools, it falls far short even of many other developing countries despite heavy public spending on education.

In the OECD’s worldwide tests of pupils’ abilities in reading, maths and science, Brazil is near the bottom of the class (see chart). Until the 1970s South Korea was about as prosperous as Brazil but, helped by its superior school system, it has leapt ahead and now has around four times the national income per head. World domination, even the friendly and non-confrontational sort Brazil seeks, will not come to a place where 45% of the heads of poor families have less than a year’s schooling.

Moisés Zacarias, who is 14, goes to school in Diadema, a poor suburb of São Paulo that sprang up when millions of people migrated from the countryside to the country’s biggest metropolis, starting in the 1960s. Most of the houses are thrown together, clinging to steep hills and set along narrow alleys. At his school, which has 2,000 pupils, there are three separate shifts of students every day to get the most out of the buildings and teachers. Last year some pupils beat up others during a lesson and posted a video of the attack on the internet. Teachers often fail to show up for work. But Moisés’s school is better than it was five years ago.

Brazil began its education late. When the country was a

Portuguese colony even the elite had little access to education at home. The first printing press did not arrive until the 19th century, hundreds of years after books were first printed in the region's Spanish-speaking countries. Before then presses were illegal. In 1930 just one in five children went to school. When Brazil did decide to build a nationwide education system, the wants of the elite came first. As in India, Brazil still spends a lot on its universities rather than on teaching children to read and write.



President Luiz Inácio Lula da Silva came to power criticising his predecessor's achievements and promising rapid improvements. In fact, his successes have largely come from continuing and expanding the initiatives he inherited. He renamed and enlarged Fundef, the previous government's programme to supplement local funding for teachers' pay and schools in poor districts. Cash transfers to poor families, conditional on their children attending school, became more generous and were rolled together with other programmes under the brand name Bolsa Família. After two bad appointments, the president picked a good education minister, Fernando Haddad, who enjoys the backing of educational reformers.

Thanks to these programmes 97% of children aged 7-14 now have access to schooling and attendance is good. Yet the federal government can do only so much in a country with around 50m in education. The task of improving schooling falls to state and municipal governments. They face many problems, but two stand out.

First, Brazil suffers from teacher truancy. Teachers enjoy a "right" to five days' absence a year with no warning or explanation, but some take many more. In schools run by state governments, 13% of all school days were lost owing to absent teachers in 2006. On a bad day in bad schools in bad states, teachers' absenteeism can reach 30%. There are meant to be substitutes who can fill in for missing colleagues but this means that teaching lacks continuity—and there may not be enough stand-ins to go around.

Second, too many pupils repeat whole school years over and over. And after a long time spent getting nowhere, lots of children drop out early. Just 42% complete high school. Improving the quality of schools so that more children pass would lead to a marked increase in the amount of money available for each pupil. To accomplish this Brazil needs qualified teachers, who are in short supply. Many have two or three different jobs in different schools and complain that conditions are intimidating and the pay is low.

In São Paulo, which does particularly badly for a rich state, the institutions that administer education are depressed and chaotic, says Norman Gall of the Braudel Institute of World Economics, a think-tank that runs reading circles in ten schools in poor urban districts. The São Paulo state bureaucracy tries to administer its 5,000 schools and 230,000 teachers with a thin staff on low pay. Transferring responsibility for schools to municipalities seems to help, and this has been happening across the country in recent decades.

As elsewhere, teachers' unions present a huge obstacle to improvement. Almost anything that disturbs their peace brings on strikes. At the moment São Paulo's teachers are striking over a proposal to make new recruits take tests before they start work to ensure they are qualified; last year they were up in arms when the state government asked them to teach from standard textbooks. They opposed a plan to pay staff bonuses depending on their schools' performance but have gone quiet on this since 70% of the state's teachers received a bonus a few months ago.

Doing a little better

Not everywhere is as bad as São Paulo, and even there you can see some signs of improvement. The state has cut the number of teaching days lost to supposed ill-health (the biggest cause of no-shows) by 60% in a year after changing the law. Reforms in the state could spread across the country if its governor, José Serra, becomes Brazil's next president in the 2010 election, as opinion polls suggest.

In Brazil's north-east, hardly associated with enlightened public policy, a network of schools called Procentro and run by professional managers rather than unsackable political hacks, is proving successful

and expanding. In other places state governments have shown a willingness to work with the private sector to improve schools. Across the country, money follows pupils to schools and children are tested—two of the ingredients for a market in public education.

At Moisés's school in Diadema a new head teacher has instilled some discipline and classes are now a bit more orderly. Jonathan Hannay, who runs Support for Children at Risk, a local charity, and has four children in public schools in the area, says things have improved in the past year, if only because teachers and pupils now work from matching sets of teaching manuals and exercise books. Such small changes can make a difference. But, if it is ever to live up to its potential, Brazil needs to keep reforming its schools, bearing down on the teaching unions and spending more on basic education.

Argentina's Kirchners and the media

Bad news for some

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The president and her husband offer carrots and sticks to the news media

Illustration by Claudio Munoz



WHEN Cristina Fernández de Kirchner, Argentina's president, said on May 27th that she will cancel the tax debts of five private media companies, she couched her generosity in an argument about the importance of a free press. It was lofty talk from someone who often snaps back at criticism from the news media. Ms Fernández went her entire presidential campaign and most of her first year in office without giving a press conference. Her husband, Néstor Kirchner, who governs with her, gave none in his four years in the top job. Rather than warming to the Fourth Estate, though, the Kirchners are becoming more adept at media manipulation. The five firms in question have agreed to repay the debts by giving space for official advertising that paints the Kirchners in a positive light. Such propagandising is not new to Argentina but its growth under the Kirchners has been extraordinary.

The central government spent 395m pesos ($125m) on advertising in 2008, more than eight times its spending in 2003, when Mr Kirchner became president. The tax-debt swap wins the government propaganda on the cheap that will not show up in this year's total. The first couple say these ads will not appear until after June 28th, when they face mid-term elections. However, the deal lets them spend more freely now, "knowing they have this on credit", says Roberto Saba, a law professor.

Much of the expanding propaganda budget is used to keep small news outlets beholden to the government. Big media firms that have many private advertisers can get by without this revenue source but small ones cannot do without public-sector ads, says Maria O'Donnell, a journalist who dug up 3m pesos in advertising payments to a provincial press firm owned by a former chauffeur to Mr Kirchner.

The courts, at least, want change. In a first for Latin America, Argentina's Supreme Court ruled in 2007 that the southern province of Neuquén had violated a local paper's right to freedom of speech by withdrawing advertising after it had linked the governor to a bribery scandal. A larger newspaper, *Perfil*, hopes this ruling will help it in an ongoing case.

But the federal government's behaviour has not shifted. A media law it is proposing contains no curbs on the politicisation of official advertising budgets. But it does restrict how many broadcasting licences a company can own. This pleases some leftists that the Kirchners want to keep sweet but it causes problems for the bulky Clarín media group, which has recently been in all-out war with the Kirchners, whom it once supported.

Opposition legislators are suspicious of an agency, with vaguely defined powers, that the Kirchners would create to implement the proposed law. Such suspicions are understandable. In April Argentina's competition commission blocked the voting rights of two Telecom Italia directors who sit on the six-member board of Telecom Argentina. Whatever its merits in competition law, the ruling benefited Werthein, a private group that owns a big stake in the company and has close ties to the government.

In some respects a change in the law is needed. Today's legislation was written during Argentina's bloody dictatorship, when 500 journalists fled abroad, 80 were jailed and at least 68 disappeared and were probably murdered. Some news media are indeed concentrated in too few hands. Ms Fernández may try to push the bill through Congress before the elections, when she is expected to lose her majority in the lower house. But time is not on her side.

Mexico tackles drug abuse

Breaking the habit

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From The Economist print edition

Increasingly, the country is not just a distributor of drugs but a user too

MEXICAN government officials rarely miss a chance to point to America's demand for illegal drugs as the cause of their violent struggle with traffickers. But the notion of the country as an innocent victim of geography is increasingly outdated. Although Mexico is still a middleman between Colombian growers and American consumers, it is fast becoming a destination for narcotics in its own right. In the past six years drug use is reckoned to have risen by nearly 30%, and the trend shows no signs of abating. President Felipe Calderón has mainly treated drugs as a national-security issue, but the consequences for public health may be almost as severe.

Mexican consumption began to take off in the mid-1990s. Tight economic conditions and increased government scrutiny of large financial transactions prompted the cartels to shift to payments in kind. Instead of giving cash to local operators on trafficking routes, they would allot them a share of the shipment. The glut of drugs in the country grew further after the September 11th 2001 attacks, when the United States redoubled its border controls.

Regional gangs then began a marketing campaign to unload large quantities of drugs. Narcotics have a formidable capacity to create their own demand: the greater the supply, the more people are exposed and become addicted. Thus small-time dealers—now thought to number 35,000— started offering free doses to young people outside schools and at parties, aiming to produce a new generation of customers. Consumption by women has grown particularly quickly in recent years, as men press their girlfriends and wives to join them in their use.

Prisons proved to be another lucrative market. Guillermo Zepeda of CIDAC, a think-tank, says four out of five inmates who did not use drugs before their incarceration now start once in jail. "For the wardens, allowing drug use is often the price of peace," he says. "It reduces the risk of riots." Once addicted, users often become peddlers too.

Although the problem remains small in comparative terms—Mexico's rate of cocaine use is one-third that of Argentina, for example—the authorities fear it may begin to spiral out of control. Already, 62% of violent crimes in the country involve drugs or alcohol.

The government has launched a three-tiered prevention programme. To shrink the pool of potential users, it is increasing its anti-drug messages in schools. To identify children at high risk, it has distributed 60,000 questionnaires to students, which inquire about their sense of well-being, family situation, and attitudes and exposure to drugs. Social workers are then dispatched to help the 5-10% that appear most in danger and invite them to visit one of 300 new addiction-prevention centres.

Finally, it is adopting partial decriminalisation. Those found in possession of small quantities of drugs will be invited for treatment, not prosecuted. A third violation will lead to obligatory medical internment. A national addiction survey, due to be published this month, will show whether these policies have begun to slow the incoming tide.



Cuba brings in austerity measures

Flickering lights

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From The Economist print edition

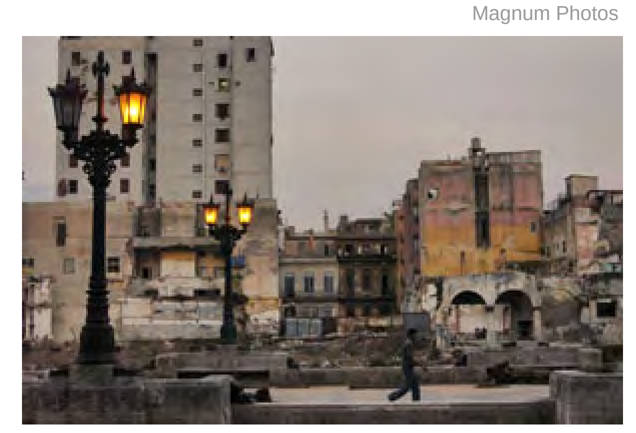
Cubans' misery grows amid moves to reduce their isolation

THE vote on June 3rd by the Organisation of American States (OAS) to lift Cuba's 47-year suspension from the regional block did little to lift the island's weary population, who face deeper hardships from an austerity programme their government began this week. Cuba faces the return of the frequent power cuts that were common in the 1990s after the fall of the Soviet Union, its hitherto paymaster.

Buses and trains have been cut. State-run shops have been told to switch off their refrigerators for two hours a day. Bakeries must not bake in the evening, when power consumption peaks. Foreign firms wanting to take more than a few hundred dollars out of the country now need the central bank's permission. These and other retrenchments reflect a growing liquidity crisis. The price of nickel, once Cuba's leading export earner, has slumped. The global downturn has hit tourism. Oil production remains plagued by inefficiency.

Raúl Castro began his presidency with something of a spending spree. Second-hand Chinese-made buses have replaced most of the lorries that once served as public transport in Havana. A bulk order of dark-blue paint has been applied to official buildings. But the younger Castro's hoped-for economic reforms have so far been limited to agriculture—farmers have been allowed to take over fallow state land and buy their own tools. Other businesses, such as tourism, have been pulled back into central control, with formerly semi-autonomous outfits such as car-hire agencies and marinas now run by ministries.

Magnum Photos



Would the last person to leave Havana please switch off the lights?

“I am out of here,” said Yuni, a musician in his 20s, as he began the tortuous process of obtaining an exit permit. Emigration has soared in economic crises, notably in 1980 and 1994 when tens of thousands set off for the United States in rafts. Both countries' governments seem keen to avoid a repeat of this. On May 31st the United States said agreement had been reached to restart migration talks, which were broken off by George Bush in 2004.

Three days later the OAS, at a summit in Honduras, voted unanimously to let Cuba rejoin. The United States agreed to this on condition that any re-entry talks took into account the regional block's pro-democracy principles. Shortly before the vote, however, Cuba's revolutionary leader, Fidel Castro, reiterated his country's long-held line that it did not want to be in what it calls an imperialist grouping. Like Marx (Groucho, not Karl), he would not join any club that would have him as a member.



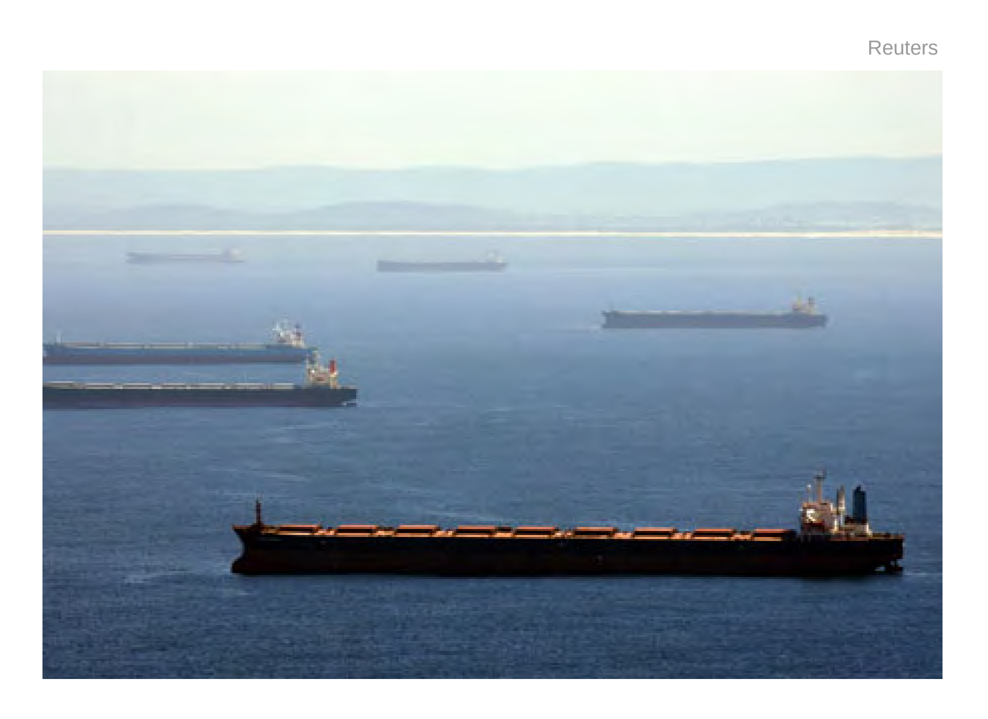
Australia's carbon-emissions trading scheme

Coals from Newcastle

Jun 4th 2009 | NEWCASTLE, NEW SOUTH WALES
From The Economist print edition

Plans for a carbon-emissions trading scheme may bring an early election

Reuters



WAITING for the perfect wave, surf-riders at Newcastle seem oblivious to the cargo ships just beyond. A dozen are queuing to load coal from the Hunter Valley, one of Australia's biggest coal-mining regions. The black stuff pouring through Newcastle's port is one of Australia's economic linchpins, making it the world's biggest coal-exporter. As Kevin Rudd, the prime minister, tries to push through legislation to deal with global warming, coal is also one of his headaches. Opposition to Mr Rudd's plans is now so entrenched in parliament that he is contemplating calling an early election.

Australia's first coal was mined at Newcastle in 1797, less than a decade after Europeans began to settle. Australians ever since have enjoyed cheap power from this dirty source of carbon-dioxide, the main culprit of global warming. Coal generates about 83% of the country's electricity, and even more in New South Wales, the most populous state. Mr Rudd wants parliament this month to approve a scheme that would change the way Australians use energy, helping to give the country credibility at the global climate conference in Copenhagen in December.

He has saddled Greg Combet, a minister and former union leader, with the task of talking the coal industry into accepting it. The industry complains the scheme's costs will mean countries such as Indonesia will be able to undercut Australia in global coal markets. Mr Combet argues, nonetheless, that Australia's role as one of the world's biggest emitters, thanks largely to its coal-dependence, imposes a responsibility to help persuade developing countries to change their ways, too, and that Australia has to "get stuck into this". Not everyone agrees.

Mr Rudd led the Labor Party to power in 2007 promising action against climate-change, after the former conservative coalition had largely ignored the issue. He wants a cap-and-trade system, allowing polluters to buy permits to produce carbon dioxide and sell these to others if they cut their own emissions instead. Bowing to cries from business for more time to get ready, Mr Rudd changed the scheme last month. It will now start from mid-2011, a year later than planned. It aims to cut emissions by at least 5% of 2000 levels by 2020, and possibly 25%, depending on global action. A swag of free permits initially will go to big polluting industries, such as concrete, steel and aluminium, but not coal.

A separate A$750m ($600m) handout will help coal adapt, including by capturing methane (a more

potent polluter than carbon dioxide) released from coal mines. By 2020 the government wants solar, wind and other renewable sources to generate one-fifth of Australia's power.

The Minerals Council of Australia, an industry lobby, argues that the cost of complying with the emissions scheme means about 24,000 mining industry jobs would disappear by then. It wants auctions for the permits to be introduced in phases, and not started in full, as is now planned, in 2012. Mr Combet firmly rejects a delay.

Mr Rudd's bigger worries lie in parliament. The House of Representatives, the lower house, passed the emissions-trading bill on June 4th. But the Senate, the upper house, where the government lacks a majority, could kill it. Malcolm Turnbull, leader of the main opposition Liberal Party, supports such a scheme. But he wants it delayed to buy him time to placate the powerful global-warming sceptics in his own party. Barnaby Joyce, of the junior opposition National Party, is less ambivalent. He calls Mr Rudd's plans an "employment-termination scheme". By contrast, Christine Milne, of the Greens, accuses Mr Rudd of "browning the scheme down" to try to win business and opposition support. She and her four Senate colleagues want the 25% cut in emissions as a minimum target, not a maximum one.

Experts have linked recent devastating bushfires in Victoria and floods in Queensland to changing climate patterns. This has affected public opinion. A poll last month for the Climate Institute, a Sydney research body, found that 77% of people worried about climate change; roughly the same share thought the Liberal Party should back the legislation. Mr Rudd is not due to face an election until late 2010. If the Senate overturns his bill later this month, he can reintroduce it after three months, then call an early election if it suffers the same fate again. That would be a big gamble. But having made an attack on global warming a central feature of his first term, it is one he may be willing to risk.

 WORLD ASIA

Dissent in China

A stab at reform

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From The Economist print edition

Resisting nasty officials proves popular

A PEDICURIST in a mountain town in central China has become a heroine to many of the country's internet-users and a bane to many bureaucrats. The woman, Deng Yujiao, has been accused of killing an official who allegedly attempted to molest her. Her story has unleashed an outpouring of public contempt for the sleaze that surrounds so many civil servants.

The police say Ms Deng, who is 21, stabbed the official on May 10th in the health centre of a hotel where she worked in the town of Yesanguan in the province of Hubei. Also present were two of his colleagues, one of whom was injured. The official who died had allegedly asked Ms Deng to perform "special services", ie, sex, and was angered by her refusal. At first the police accused Ms Deng of murder, but later revised the charge to one of using excessive force to defend herself. She has returned home, under police surveillance, while prosecutors decide what to do.

The toning down of the charges is a big concession. In China police rarely change their minds and defendants are scarcely ever found innocent. Some internet commentators have hailed it as a victory for public opinion. Ms Deng's case has been widely likened to that of Yang Jia, a man who won extraordinary public sympathy after he killed six policemen in Shanghai in July last year. Both Mr Yang and Ms Deng are seen as having been driven over the edge by brutish, arrogant officialdom. Mr Yang was executed last November.

The timing of this latest internet frenzy is awkward for the government. Recently it has been tightening controls on the internet, a sign of concern over the 20th anniversary on June 4th of the bloody suppression of the Tiananmen Square democracy movement. It has blocked access to sensitive blogs as well as to Twitter, an instant social-networking service. One Chinese newspaper, *Global Times*, did break ranks by publishing a story on the anniversary. It called the 1989 crackdown a "sensitive topic", but said Chinese people were now "much more apathetic" about politics.

Indeed, for many young urban Chinese—ie, most of the country's internet-users—cases such as Ms Deng's are of far greater interest than the killings in Beijing in 1989. On June 1st *Liaowang*, a magazine published by the official news agency, Xinhua, reported that "mass incidents" involving the internet could rapidly damage the Communist Party's image among millions of people. Many local officials, it said, lacked the ability to respond effectively.

In Yesanguan the knee-jerk response of the local government was to try to keep reporters away from Ms Deng. Some Chinese journalists complain of being beaten. Officials whisked Ms Deng off to a mental asylum, saying that antidepressant pills found in her bag showed she was psychologically unstable. But the public response, and that of more liberal-minded Chinese newspapers, prompted a change of attitude. On May 31st the government announced that the two surviving officials had been sacked. All three had worked for a local business-promotion office.

AFP



An armless act of protest

Unnamed grassroots officials quoted by *Liaowang* said that recent internet uproars reflected changes in the “social mood” amid the global financial crisis. One sign of this, they said, was the greater tendency of internet users to take action rather than simply vent their anger online. It did not mention the case of Ms Deng, but her story has prompted at least two small public protests, involving performance art, by women’s-rights activists in Beijing (see picture) and the central city of Wuhan.

The unrest in China 20 years ago was also fuelled by anger over corruption and other official misconduct. But the party has less to fear now. Discontent is mainly directed at the actions of local bureaucrats rather than national leaders. The Deng Yujiao case has not led to calls for an end to one-party rule, only for more enlightened government. To the extent that officials do sometimes cave in to online sentiment, change is already happening. The danger now, as an article on a Chinese legal website argued, is of trials by the media.

Hong Kong's identity crisis

Feeling special

Jun 4th 2009 | HONG KONG
From The Economist print edition

Annual soul-searching; secular decline

IT IS not easy being Hong Kong. Ever since the British decided to return it to China, the city has suffered from bouts of hand-wringing about its role. Proudly Chinese yet also steeped in Western ways, many Hong Kongers are never sure how they fit into the People’s Republic. Confusion is always acute around June 4th, the anniversary of the Beijing massacre of 1989.

Unlike then, Hong Kong is now legally an undeniable part of China. But its people are still mixed up about the motherland. As *The Economist* went to press, thousands of Hong Kongers were gathering in a park for the largest civic commemoration anywhere in China. In a recent public-opinion poll 69% replied that the Chinese government did the wrong thing on June 4th 1989.

But politics did not set off the latest bout of collective angst. The trigger was the news in late March that the Chinese government had approved a plan to turn Shanghai into a global financial and shipping centre by 2020. Hong Kong’s political and business leaders gasped at this frontal assault on the enclave’s cherished role as an international gateway to the mainland. With the clock ticking, they fear that their “special administrative region” will soon become less special. Some were already fretting that China’s chummier cross-strait relationship with Taiwan is reducing transit commerce through Hong Kong.

Hong Kong’s economic woes are aggravating its sense of insecurity. The territory’s first-quarter GDP shrank by 7.8% year-on-year. Some economists warn that Hong Kong is heading for a record contraction this year. Its jobless rate could approach levels seen in 2003, during the outbreak of SARS, a respiratory disease. So the normally hands-off Hong Kong government has sprung into action. It has announced two rounds of tax cuts and various handouts to the poor and to businesses. Last autumn Donald Tsang, Hong Kong’s chief executive, set up a task force to map out the city’s long-term economic direction. In April it recommended that the government focus on developing six fields—including education, and environmental and medical industries—in which Hong Kong has an edge.

Yet Mr Tsang’s leadership inspires little confidence. A former civil servant under the British, Mr Tsang, like his only predecessor, was picked by Chinese leaders. He and other senior officials are often seen as bending to their patrons’ wishes, rather than standing up for Hong Kong. Mr Tsang unwittingly helped galvanise this year’s Tiananmen tributes by suggesting that most Hong Kongers no longer cared about June 4th. Marching through the city on May 31st, some of the 8,000 demonstrators chanted: “Tsang doesn’t represent me.”

The greatest frustration of post-handover Hong Kong is perhaps its blocked political aspirations. The richest place in China, it is also one where people can openly talk politics, rally against the government and choose a legislature in multiparty elections. This week it turned away at least one 1989-generation student leader, but let another enter the territory. In its bookshops the just-published memoirs of the late Zhao Ziyang, a former head of the Communist Party who opposed the Tiananmen crackdown, are flying off the shelves. In China the book is banned.

But Hong Kong’s elite remains staunchly pro-business and hence pro-China. As the Chinese government dithers over the democratic reforms promised in the city’s mini-constitution, they have remained passive. Bao Pu, a Hong Kong-based editor of Zhao’s book, sees this as dangerous, and fears that if Hong Kong people are not vigilant, their freedoms “will be gradually taken away”. The nagging fear at every June 4th commemoration in Hong Kong is that it may be the last.

Pakistan's war in Swat

After the exodus

Jun 4th 2009 | ISLAMABAD
From The Economist print edition

The relief effort is underprepared, underfunded and overwhelmed



NOBODY, it seems, saw it coming. Fikret Akcura, the United Nations' senior official in Pakistan, concedes that there is still no clear plan for giving aid to most of those who have fled fighting in the Swat valley between the Pakistani army and Islamist militants. He defends the relief effort, which has seen camps hastily prepared for the displaced. But some 80% of the estimated 2.4m uprooted people have sought refuge elsewhere. The difficulties are only just beginning. As the army asserts control in Swat, it is becoming clear that, as elsewhere in the North-West Frontier Province (NWFP) and adjoining tribal areas, the civilian administration there is rotten.

The military campaign, now in its sixth week, was launched after Taliban fighters flouted a peace deal covering the Malakand division in NWFP, which includes the valley. On May 30th the army said it had recaptured Mingora, Swat's main town. The army claims to have killed 1,200 militants, at the cost of 90 soldiers' lives. For once, public opinion is firmly behind the operation. Support, however, could dissipate fast if the displaced are not cared for, and Taliban leaders simply melt away.

On June 3rd Richard Holbrooke, America's envoy for Afghanistan and Pakistan, visiting Islamabad, said the administration had asked Congress for $200m in emergency aid for the displaced. The UN had appealed for $543m to help it cope with the humanitarian disaster, but so far raised just $137m. When the fighting started, it was already struggling to help 500,000 refugees from earlier campaigns in Swat and the Bajaur tribal area.

Under Mr Akcura, the UN has only just started to look beyond its established humanitarian programmes in Pakistan to the consequences of the insurgency. A recent internal report argued that it should quickly involve itself in bolstering the government in NWFP and the tribal areas, to avert grave instability. As the head of the NWFP police, Malik Naveed, says: "You name it, we need it." The boss of a hospital in Peshawar, NWFP's capital, says the flood of refugees has almost bankrupted it.

America has committed $750m in aid to the tribal areas, but some of the contractors through whom the money is being channelled are indistinguishable from bandits, and the local administration is threadbare and corrupt. Khalid Aziz, formerly a senior official in the area, says there is neither proper oversight nor any overall strategy. A decades-old debate about how to govern the semi-autonomous tribal areas shows no sign of producing an answer.

This week clashes between the security forces and militants in the tribal areas intensified. On June 2nd troops rescued 79 students and staff from a college in North Waziristan, after they were abducted by tribal militants. The army is poised to extend its campaign into South Waziristan, the main base of Baitullah Mehsud, the chieftain of the Pakistani Taliban. The UN estimates this will displace another 500,000 people. In readiness for the expected fighting, the Red Cross has opened a hospital for the war-wounded in Peshawar.

Over the six weeks of the campaign, militants have carried out a dozen bomb attacks across Pakistan, including three on May 24th in the north-west, a day after 24 people were killed by gunfire and a suicide-bomb in Lahore. But, in the eyes of the authorities at least, there are still good and bad jihadists. On June 2nd, to the fury of Indian officials, Lahore's high court freed from house arrest Hafiz Mohammad Saeed. Now posing as the head of a charity, he founded Lashkar-e-Taiba, the terrorist outfit accused of

killing some 170 people in Mumbai last November.

The human cost of Sri Lanka's war

Too many heroes

Jun 4th 2009 | COLOMBO AND SAMADHIGAMA
From The Economist print edition

And each slow dusk a drawing-down of blinds

ALONGSIDE some of the government’s finest military hardware at a ceremonial parade in Colombo on June 3rd were dozens of disabled soldiers in gleaming wheelchairs. Sri Lanka has paid a heavy price for its recent rout of the rebel Liberation Tigers of Tamil Eelam.

Gotabhaya Rajapaksa, the defence secretary and brother of the president, has admitted that 6,261 soldiers were killed and 29,551 wounded in three years of fighting. He revealed, too, that a total of 23,000 troops have died since the first casualties in October 1981, when the Tigers’ leader, Velupillai Prabhakaran, sprang off a bicycle and shot two soldiers running errands in the northern town of Jaffna. Prabhakaran and much of the army he built are now dead. The Tigers have not disclosed their losses but the Sri Lankan army commander, General Sarath Fonseka, says an estimated 22,000 have been killed in the past three years, and 9,000 have surrendered.

The human cost to both sides was particularly heavy during the final three months, as the Tigers were driven into a fast-shrinking pocket of land in the north. The distinction between Tiger combatants and the civilians they were holding to fend off the onslaught blurred fatally. Thousands of non-combatants were killed or wounded, mostly in shelling by the army. It had been ordered to notch up a speedy victory, amid calls from abroad for a truce.

At the United Nations human-rights council in Geneva, Sri Lanka last month shrugged off attempts by Western countries to institute an inquiry into alleged war crimes by both sides. But it still faces the fury of the Tamil diaspora and the threat of sanctions, such as the withdrawal of trade privileges from the EU. Confident, however, in the backing of countries such as China and Russia, President Mahinda Rajapaksa can defy what he terms Western “doublespeak”. And on June 3rd he made another big victory speech, his third in two weeks. He paid glowing tribute to army families, saying some had given up all their children to the armed forces.

In Samadhigama, a poor village 280km (175 miles) north-east of Colombo, a sobbing 87-year-old Ukkubandage Sumanawathie knows what he is talking about. Five grandchildren died in the war. A sixth is missing in action. Mrs Sumanawathie lives with her 36-year-old daughter, Saman Malini. No celebratory flags fly in her village, as they do in Colombo. Instead, little white markers cut out of polythene bags are still planted along the narrow rubble lane to the cemetery. Mrs Malini’s teenage son was buried there in an unmarked grave on May 12th. The army brought his remains in a sealed coffin, with a framed statement calling him a hero. He had served for less than six months.

Mrs Malini will use her son’s death benefits to put a headstone on his grave and complete their half-built brick house. A local official says most poor bereaved families do the same. With just 172 households, Samadhigama has 130 soldiers. Kukulewa, the adjoining village, has 160 from 270 households. Socially, says the official, enlistment is the “accepted thing to do”.

Many villages around Sri Lanka are now coping with such post-conflict difficulties. Demobilisation, however, is unlikely to be one of them. Recruitment has in fact increased, ostensibly to get rid of mines and to secure territorial gains.

The defence secretary has promised to keep paying death benefits to army families despite fiscal constraints. With thousands of such households to support—and at least 5,000 permanently disabled veterans to rehabilitate—the government has appealed for donations. There are also private initiatives, including one to buy commode toilets for disabled soldiers who can no longer use squatting pans. But Harsha de Silva, an economist, argues that this piecemeal fund-raising is insufficient. He urges the government to set up a veteran’s administration. And there should be savings on arms purchases, he points out, that could be diverted towards caring for some of the war’s many victims.

The Philippines and the English language

E for English

Jun 4th 2009 | MANILA
From The Economist print edition

The cost of being tongue-tied in the colonisers' tongue

Illustration by Claudio Munoz



ONCE it claimed to have more English speakers than all but two other countries, and it has exported millions of them. But these days Filipinos are less boastful. Three decades of decline in the share of Filipinos who speak the language, and the deteriorating proficiency of those who can manage some English, have eroded one of the country's advantages in the global economy.

This week children trooped back to school for the new academic year. The government-approved textbooks they will study illustrate the problem. A passage in one for eight-year-olds reads: "The dog rolled on the floor so fast and fell on the ground. There he laid yelling louder than ever. The dog yelled on top of his voice." A book for 11-year-olds advises, mysteriously: "Just remember this acronym—DOCSiShQACNMN—to make it easy for you to remember the order of adjectives in a series."

Never mind the pupils, teachers have been flunking English for years. In 2004 only one in five teachers passed the English-proficiency test. The effect on pupils is plain to hear. Last year the country winced when the 17-year-old winner of the Miss Philippines World beauty contest failed spectacularly to answer in English the usual questions posed by judges in such events.

Call-centres complain that they reject nine-tenths of otherwise qualified job applicants, mostly college graduates, because of their poor command of English. This is lowering the chances that the outsourcing industry will succeed in its effort to employ close to 1m people, account for 8.5% of GDP and have 10% of the world market by the end of 2010.

America, as the colonial power, brought English and universal public education to the Philippines a century ago. But English as a subject has suffered from lack of money, along with public education as a whole. Some Filipinos also blame the introduction in the 1970s of Filipino, an artificial national language, as the medium of instruction.

The government is tackling the problem by throwing money at remedial English-language instruction for teachers and making greater use of English as the medium of instruction. It says these measures are working. A recent opinion poll suggests Filipinos believe their own ability to speak English is improving. Call-centre bosses are not convinced.

Banyan

Does the elephant dance?

Jun 4th 2009
From The Economist print edition

Or, in its effort to cut a global dash, will India's feet always be hobbled by problems closer to home?

Illustration by M. Morgenstern



THE news in May that the Congress party had won India's elections by a big margin electrified the political establishment and sent shares soaring. Manmohan Singh, back as prime minister, still needs coalition partners, but no longer relies on Communists for his majority, and needs not pay so much heed to small, venal regional parties. At home, he pledges to forge ahead with liberal reforms. Abroad, too, says Shyam Saran, a special envoy for Mr Singh on climate change, his government "will enjoy greater room for manoeuvre than in its earlier incarnation".

If this freedom produces a robust, coherent foreign policy, it will be a post-cold-war first. "Does the elephant dance?" is the title of a forthcoming book on India's foreign policy, by a former Canadian envoy, David Malone. Until now the country has been a wallflower and it is about time it put on its pumps. India enjoys huge global respect as a successful democracy. In marked contrast to China's, its rise raises few hackles in the West. And its formidable intellectuals, entrepreneurs, Bollywood stars and diaspora give tremendous "soft" power. But in comparison with its stature, its influence remains pitiful, despite its recognition by America as a member of the nuclear club—the main (perhaps only) foreign-policy achievement of Mr Singh's first term.

Indian governments' main preoccupations are domestic—unsurprisingly, given a riotous Bartholomew Fair of a political system, and huge economic problems. India's immediate region has also frustrated its great-power ambitions, with Pakistan chiefly to blame. Much of Pakistan's elite continues to view India as a threat to their country's existence. This is misguided, and in the case of the army, self-serving. Pakistan's own jihadists remain a bigger danger. But Pakistan's morbid obsessions tie India down, too. In Mr Singh's second term, say his advisers, India will attempt to vault beyond concerns in its near-abroad. And, having appointed, in S.M. Krishna, a foreign minister expected to be grateful and ineffectual, he will be unfettered either by carping Communists or ambitious colleagues. He will be able to toe his own foreign-policy line. Top of his agenda will be trade, climate change and responding to China's rise.

Don't hold your breath on the first two. Mr Singh has liberal views on trade, and his cabinet shuffle notably got rid of the commerce minister, who was widely blamed for scuppering trade talks under the Doha round in Geneva last July. An early signing of a free-trade agreement between India and the ten-

country Association of South-East Asian Nations (ASEAN) is expected. Yet such agreements offer more political than economic advantage. And the old domestic constraints remain. Mr Singh campaigned on what he calls “inclusive growth”. This implies protection for farmers and more. Even if Mr Singh now favours the pursuit of freer trade, Sonia Gandhi, boss of the Congress family firm, with its roots in the countryside, may well overrule him.

As for climate change, Mr Saran points out that India, like other poor countries, will be among the worst-hit by a warming globe and has an overriding interest in a successful international regime emerging from the climate-change conference in Copenhagen in December. It is true that a first casualty of the melting of Himalayan glaciers would be the waters of the north-Indian plain. But Mr Saran also stresses that agreement cannot be reached at the expense of India’s development. Many Indians feel that tackling climate change, like free trade, is something pushed on India by outsiders to bring it down. For the moment, India can hide behind America and China, which are barely inching towards a common approach.

That leaves China. To those paid to worry about such things the threat is clear and present. “He is coming over the passes from Sinkiang [Xinjiang],” says a senior Indian military man. “He is building the road to Burma [Myanmar]; he is seeking ports from all those around us; and he is selling arms to all and sundry.” This, to Indian strategists, is the “string of pearls” strategy designed to encircle their country. Now China is trying to block the Asian Development Bank from financing a project in the north-eastern state of Arunachal Pradesh, territory claimed by China. Hawks say Indian politicians’ judgment about China is clouded by economic ties. China is now India’s biggest trading partner.

A whole lotta hedging going on

Yet China’s trade with India, and others, counts for something besides commercial expedience. It helps explain China’s push into India’s backyard, with roads, ports and pipelines, chiefly via Myanmar and Pakistan. So does the perceived need to secure energy lines. China’s oil use is doubling every 15 or so years. Nearly nine-tenths of its oil imports cross the Indian Ocean and pass through the Malacca Strait. India has almost identical energy concerns, though its potential chokepoint is not Malacca but the Strait of Hormuz. Its navy, like China’s, has been rushing to secure friendly staging-posts around the Indian Ocean. As a hedge, it has also been forging links farther east with China’s own maritime neighbours, including Vietnam, South Korea and Japan.

China’s trade with India also counts by reaffirming a growing interdependence in a part of the world that still defends brittle notions of sovereignty. Properly handled, interdependence could smooth the rougher edges of rivalry. But that must depend in part on how much domestic populations have got at stake. Here, India scores poorly. This week a Unicef report warned that, despite several years of breakneck growth, India falls far short in protecting its own people from poverty. Some 230m Indians suffer from chronic hunger, a number that has grown thanks to the global downturn and sharp swings in the price of food and fuel. China’s record, with malnourishment largely banished, is far better. Mr Singh’s foreign policy begins at home.

Economist.com/blogs/banyan

Barack Obama speaks to the Muslim world

Let's be friends

Jun 4th 2009 | CAIRO
From The Economist print edition

America's president used his oratory to superb effect. Now for the hard part

Illustration by David Simonds



"WE AWAIT your arrival impatiently because we admire your noble principles and lofty virtues," gushed an open letter from Sheikh Ali Yusuf, a Muslim cleric who, long ago, was Egypt's most popular columnist. Printed in an Arabic daily, it went on to express hope that in his speech at Cairo University, the American president would show support for Egyptian aspirations to freedom and dignity.

Those words were penned 99 years ago in advance of a lecture by Theodore Roosevelt, an American president whose imperialist tone then sourly disappointed Egyptian hopes. But now the long-dead sheikh may rest reassured. In a rousing speech on June 4th Barack Obama used the magnifying force of the American presidency, his own charisma and a podium at the heart of the Arab world to address the concerns of the world's 1.4 billion Muslims. Speaking at Cairo University, he sought to project an openness to Islam, a sense of shared values, support for Muslim aspirations and a determination to use American power to help fix the problems that most trouble them. It won praise as a superb oratorical performance.

"The cycle of suspicion and discord must end," Mr Obama declared, to enthusiastic applause. "I have come to seek a new beginning, based on co-operation and respect." Punctuated with quotations from the Koran, the speech ranged from pressing issues such as Iraq, Afghanistan and Iran's nuclear ambitions to principles such as democracy and women's rights. It culminated in a vision of a more tolerant and peaceful world.

The American president did not shy away from chiding some Muslims for their reluctance to condemn violent extremism or the tendency to measure their own faith by rejection of another. He made a strong pitch for America's own vision of religious freedom, and called for understanding of the historical suffering of Jews. Castigating the denial of the Nazi Holocaust as "baseless, ignorant and hateful", he took an indirect swipe at Iran's president, Mahmoud Ahmadinejad. But he also evoked Palestinians' suffering, describing their situation as "intolerable". He forthrightly repeated his demand for an end to

Jewish colonisation of Palestinian territory.

Mr Obama has addressed Muslims before. He granted his first interview as president to an Arab satellite channel, beamed a warm message to Iranians for their spring festival, and spoke at a conference on religious tolerance in Istanbul. But this speech fulfilled his pre-inauguration promise to make a bold bid to restore American prestige with a direct public address in a Muslim capital.

Will Mr Obama's rousing oratory bear fruit? Many Muslims are still embittered by the legacy of the Bush years, which accumulated injuries ranging from the invasion of Iraq in 2003 to scandalous treatment of Muslim prisoners and a perceived deepening of American bias towards a belligerent Israel. Opinion polls, which showed a drastic slide in American prestige, have nudged upwards under Mr Obama, with his own popularity far higher than that of the nation he represents (see article).

Yet the constant refrain, heard on Cairo's streets as well as from media pundits, is that Arabs and Muslims would like to see Mr Obama's words matched by deeds. "To win our hearts, you must win our minds first, and our minds are set on the protection of our interests," declared one of the reams of editorials, columns and open letters from across the region before Mr Obama spoke.

Broadly speaking, and despite the latest internet tirades of Osama bin Laden, most Muslims recognise the sincerity of Mr Obama's effort to extricate America from Iraq—and its complexity. More grudgingly, they also understand his quandary in Afghanistan. The one issue where Muslim opinion converges with a demand for a change in America's approach is Palestine. Here, arguably, no American action can be expected fully to assuage Muslim and Arab grievances fast, partly because of what Mr Obama described as America's "unbreakable bond" with Israel and partly because half of the Palestinians' divided polity is run by Hamas, an Islamist group still seen as anathema to America. But Muslims are immensely cheered by the fact that Israelis are plainly rattled by Mr Obama's pressure over the issue of Jewish settlement on occupied land.

Mr Obama's determination to set America's relations with Muslims on a new footing will bring hope across the Middle East and farther afield. The difficulty now lies in translating the new goodwill into action, not just by America, but by its Arab and Muslim allies.

Iran's presidential election

No certain outcome

Jun 4th 2009
From The Economist print edition

Mahmoud Ahmadinejad, populist as he is, may not yet be home and dry

IF IT were not that Iran's presidential election will determine the fate of a large, ancient nation, and perhaps also the chances of peace in a vital region of the world, the spectacle might simply be hugely entertaining. In this religion-diluted quasi-democracy, where politics tends to be expressed in ritual public chanting or sullen private apathy, the contest has evolved unexpectedly into a bare-knuckled slugging match, complete with taunting rhetoric, dirty tricks and colourful, rowdy fans. Rather than leading to a widely predicted first-round win for Mahmoud Ahmadinejad, the fight has thrown Iran's ebullient, controversial president on the defensive.

Until very recently the field of challengers looked uninspiring, particularly after the abrupt withdrawal of Muhammad Khatami, a liberal reformer who won overwhelming victories to serve as president from 1997-2005. Several potentially strong conservatives also declined to run, apparently in deference to the supreme leader, Ayatollah Ali Khamenei, who has subtly lent his considerable weight to the incumbent. This left two greybeards who are both centrists in the theocratic context of Iran: Mehdi Karroubi, a former speaker of parliament, and Mir Hosein Mousavi, prime minister during the Iran-Iraq war of 1980-88, as the only serious contenders for the opposition. With both standing on mildly reformist platforms, they looked likelier to split and weaken the protest vote than to oust Mr Ahmadinejad.

In early May the Council of Guardians, a body of clerics charged with ensuring the Islamist and revolutionary credentials of public officials, disqualified hundreds of candidates at a stroke, including every female applicant. The only survivors of the cull were the two mild reformists and a hardline conservative, Mohsen Rezai, who used to command the Revolutionary Guard. Considering the president's genuine popularity among groups most likely to vote, such as the rural poor, and the bias towards him of the state-controlled broadcasts that Iranians mainly rely on, the stage looked set for a dreary campaign. But with only a week to go before polling on June 12th, and with Mr Ahmedinejad and his three challengers pairing off in a string of televised debates, the race has instead stirred up Iranians as much as any since the Islamic revolution of 1979.

This may hurt Mr Ahmadinejad and his ultra-conservatives. Since his shock triumph in the presidential polls of 2005, they have relied on a mix of backing from non-elected institutions, free-spending populism based on windfall oil profits, and a growing tendency among middle-class, city-dwelling Iranians to shun elections altogether. Now the president is suffering not merely from defections in the conservative camp, a crash in oil income, and an unprecedentedly brutal verbal pummelling from his political foes. The heated mood may inspire more of Iran's army of fence-sitters to get out and vote.

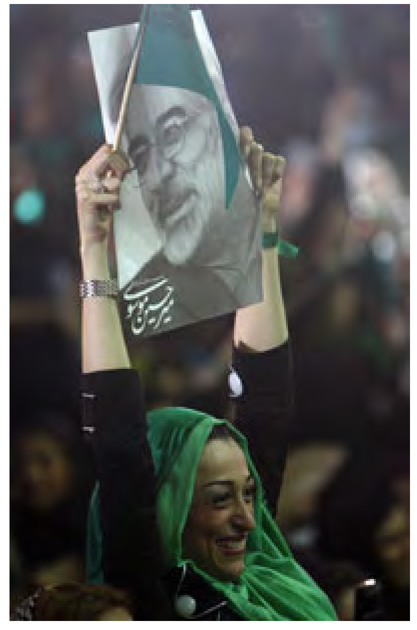
AP

Their voice could make all the difference. Experts reckon that as many as 10m-12m of Iran's 46.2m registered voters reflexively back Mr Ahmadinejad, meaning that a low turnout could swing him an outright majority in the first round. But key conservative groupings, including senior clerics and parliamentary blocs, have either failed to endorse him or have done so tepidly. And although the former guardsman, Mr Rezai, is deemed a distant runner, he has chipped away at the president's core constituency. Touting his own credentials as a patriot and fervent revolutionary, he has undermined Mr Ahmadinejad on the sensitive nuclear issue by declaring that Iran would be more respected if it adopted a less "bullying and adventurist" posture, and instead asked other countries to join a consortium to help Iran to enrich its uranium on Iranian soil.

Divisions among the conservatives raise the chance of Mr Ahmadinejad being forced into a second-round run-off against one of the reformist challengers, both of whom are more popular than Mr Rezai and have

proven much fiercer campaigners than expected. Attacking the president's record across a full range of issues, they have reignited enthusiasm among reformists, many of whom, after their failure during Mr Khatami's term to overcome entrenched conservative opposition, had despaired of ever regaining momentum. Like Mr Khatami in his heyday, the reformist challengers have also inspired large, organised youthful followings that have fought hard to overcome handicaps, for instance by using text messaging and the internet to bypass the state media.

Tipped as most likely to succeed is Mr Mousavi. Despite his dour professorial manner and absence from politics since his premiership during the grim years of the Iran-Iraq war, he has rallied powerful support with calls for wider freedoms, economic pragmatism and reduced tension with the outside world. "Our people have not given you the right to disgrace them," he lectured Mr Ahmadinejad in one speech, saying that Iran's global standing had fallen to the point where its passports were as unwelcome as those of Somalia.



Mousavi, the ladies' man

An aesthetic duo

A trained architect and a talented painter, Mr Mousavi also happens to be of Azeri-Turkish origin, so he draws interest from the large, well integrated ethnic minority that dominates north-western Iran. Breaking with Iranian tradition, his wife, also an artist and a professor, has joined his campaign. This, along with his promises to boost women's rights, is one reason his boisterous rallies have been well-attended by women, often sporting the bright-green colour that has become his symbol.

Mr Karroubi, a turbaned Shia cleric who got 5m votes, nearly as many as Mr Ahmadinejad, in the first round of the presidential polls in 2005, has been equally forthright. Concentrating on the economy, a concern in a country where inflation is running at 25%, he has recruited a team of leading economists and promises to share out oil revenues with every citizen. His supporters have poured invective on Mr Ahmadinejad, likening his rule to the Taliban's and ridiculing him for describing as "trash" the sanctions imposed by the UN Security Council that have made life harder for ordinary Iranians.

In response, Mr Ahmadinejad accuses his opponents of abusing freedom to insult the nation, alternately implying that they are backed by foreign enemies or "greedy despots and financial opportunists" at home. Such fighting words continue to appeal to many, as have the timely dispensing by Mr Ahmadinejad's government of salary and pension rises, cash gifts to the poor, and even free vegetables.

But the election season has, to quite a degree, pulled away the veil of fear from his critics and exposed the president's shortcomings. Whatever the outcome of the vote, many Iranians are hoping that this unwonted openness, at least, may last. And if the president fails to win an outright victory in the first round, he may have a struggle to fend off whoever emerges as his chief challenger in the second.

Palestinian disunity

No cause for joy

Jun 4th 2009 | RAMALLAH
From The Economist print edition

The outlook for the fractious Palestinians is as gloomy as ever

IN THE bloodiest outbreak of factional violence since the Islamists of Hamas violently ousted their secular rivals of Fatah from control of the Gaza Strip two years ago, six Palestinians were killed on May 31st in a shoot-out in the West Bank city of Qalqilya. This time Hamas was the target, when the security forces of the Palestinian Authority (PA), which is run by Fatah, killed two Hamas militants who rejected Fatah's authority and lost three of their own men (and a bystander).

Most pointedly, the fight occurred just days after the PA's president, Mahmoud Abbas, had assured President Barack Obama on a visit to Washington that the Palestinians were meeting their obligations—particularly to disavow violence—under the tattered road map towards Israeli-Palestinian peace that was unfurled by George Bush in 2002. The latest factional fighting makes it even less likely that a Palestinian unity government will be formed any time soon, even though that is a prerequisite for resuming meaningful peace talks between Israel and Palestinians.

Mr Abbas's main message to Mr Obama was that the Israelis were still refusing to meet their part of the road-map's bargain, because they were still letting Jewish settlements be built and expanded on the West Bank, where the Palestinians hope to have their own state. The PA's negotiators say there is no point in resuming talks with Israel's government until it accepts the idea of two states and curbs the settlers. Mr Obama has pleased many Palestinians by sounding much fiercer than his predecessor in telling the Israelis to comply with the road map, especially over settlements.

AP



Doorway to unity and peace?

The PA's security forces have been praised by the Americans for restoring a modicum of order by confronting and disarming militant groups as a token of their eagerness to make peace with Israel and build a state of their own. But the crackdown by Fatah on Hamas in the West Bank, as well as recent arrests of Fatah people by Hamas in Gaza, has sown discord. The rival factions have repeatedly met in vain in the past year, under Egypt's aegis, to try to settle their differences and set up a unity government. The two groups still disagree on the shape of a coalition government, the election system, control of security and, above all, policy towards Israel. Since the fighting in Qalqilya, Hamas has told its people to fight the PA as if it were the Israeli army. Both sides are threatening to withdraw from the next round of unity talks, due to begin in early July.

The appointment of a new Palestinian government, which took office in mid-May in Ramallah, the West Bank's administrative capital, had already set back hopes of unity. The new team, the 13th in 14 years, is larger than the previous one and includes only members of the Palestinian Liberation Organisation, a nationalist umbrella which excludes Hamas but embraces various minnow parties. The government also has a handful of independents and technocrats. Most of its ministers are new.

In any event, the Fatah-dominated PA still controls only limited areas of the West Bank, as Israel keeps a tight grip on much of the land. Even ministers need permits from Israel's civil administration to move between 600-plus military checkpoints. Hamas, which won the latest general election, in 2006, maintains its hold on the Gaza Strip. The Palestinians' 132-strong parliament has barely functioned since 2006, when Israel arrested 40 Hamas members. Mr Abbas's domain looks pretty patchy.

Hamas has denounced the PA's new government as illegal. But some people in Mr Abbas's own Fatah movement have raised objections too, saying it has been set up illegally and without due consultation. Some Fatah members of parliament say they will boycott it. Others object to the reappointment of Salam Fayyad, an independent, as prime minister. Mr Abbas feared that if he kept out Mr Fayyad, a former World Bank economist favoured by America and Europe, his government might lose Western support and funding.

Mr Fayyad first headed an emergency government after Hamas violently took over Gaza. A few months ago he resigned to help find ways of forming a unity government to include Hamas. His reappointment is a sign that reconciliation talks have collapsed. Stalemate, once again, is the order of the day.

Zimbabwe's power-sharing government

The struggle goes on

Jun 4th 2009 | HARARE
From The Economist print edition

President Robert Mugabe is as recalcitrant as ever, despite an agreement to share power with Morgan Tsvangirai (pictured). Yet change is in the air

EPA



ON June 6th Morgan Tsvangirai, Zimbabwe's prime minister, is to set off on a three-week red-carpet tour of Europe and America, where he is due to meet Barack Obama. It is the former opposition leader's first official trip abroad since taking his Movement for Democratic Change (MDC) into a fraught power-sharing deal with President Robert Mugabe's ruling Zanu-PF in February. He wants to present a friendlier, more respectable face of a country widely regarded as a pariah, in the hope of winning international support for the unity government. A formidable task.

The new government has been in office for nearly four months, yet most of the conditions laid down by foreign governments for resuming aid to bankrupt Zimbabwe remain unmet. The rule of law and human rights are still being violated with impunity. The security services, secret police and media remain in Zanu-PF's grip. Political campaigners, lawyers and journalists are still being arrested on trumped-up charges. Farms still owned by whites are being invaded at an even greater pace. And the despotic 85-year-old president still calls the shots in what is supposed to be a partnership of equals.

From the outset, Mr Mugabe and his party hardliners have been bent on scuppering a deal imposed on them by the Southern African Development Community (SADC), a 15-country regional group, taking every opportunity to thwart and humiliate Mr Tsvangirai and his MDC ministers. They are especially determined to block a key part of the deal: the drafting of a new constitution, the first since independence in 1980, designed to impose clear checks on executive power and to lead to proper elections within two years.

Under the power-sharing arrangement, the MDC—which, let it not be forgotten, actually won the elections in March last year—was supposed to get 13 of the agreed 31 Cabinet posts and Zanu-PF 15, with the remaining three going to an MDC splinter led by Arthur Mutambara. But on the day the new ministers were to be sworn in, Mr Mugabe, who had already seized the beefiest ministries, grabbed a whole bunch more, increasing the number of cabinet posts to 41 in violation of the agreement signed by all three parties in September. Mr Tsvangirai was powerless to stop him; SADC, the pact's guarantor, was silent.

Mr Mugabe still treats the agreement and his prime minister with contempt. Mr Tsvangirai recently announced that journalists were now free to report on Zimbabwe without government approval, yet he was promptly contradicted by the information minister, a Zanu-PF man, who said that journalists without proper accreditation could face up to two years in jail. After months of negotiations, Mr Tsvangirai at last secured the release of human-rights activists and MDC sympathisers who had been detained, and many tortured, on treason charges. But a few weeks later they were rearrested.

Under their power-sharing pact, Messrs Tsvangirai and Mugabe are meant “to consult and agree” on all senior government appointments. Until now, Mr Mugabe has simply ignored that part of the deal. But on May 21st Mr Tsvangirai proudly announced that agreement had been reached on the appointment of permanent secretaries (the top civil servants) in every ministry. The appointment of the first MDC provincial governors and ambassadors had also been agreed to. They were to be sworn in “at the soonest possible opportunity”, along with Roy Bennett, a dispossessed white farmer, whom Mr Mugabe has hitherto steadfastly refused to accept on the ground that he was facing charges of “treason”. Just as it looked as if Mr Tsvangirai might have scored his first win in a behind-the-scenes power struggle with Mr Mugabe, it turned out that all the current permanent secretaries had been reappointed, whereas no deadline had been set for swearing in the MDC’s new governors and ambassadors or Mr Bennett; now out on bail after more than a month in jail, he says he is not expecting to take up his post any time soon.

Another contentious issue is Mr Mugabe’s appointment of Johannes Tomana as attorney-general and his reappointment of Gideon Gono as governor of the central bank to another five-year term. It was Mr Gono who presided over the collapse of Zimbabwe’s once-flourishing economy while plundering the bank’s resources to finance Mr Mugabe and his Zanu-PF friends. Though lesser known, Mr Tomana, who has been responsible for all arrests and prosecutions, may well be the more dangerous of the two.

He just won’t go

The more Mr Mugabe has been pressed to get rid of those two men, the deeper he has dug in his heels. For the first time since the unity government was set up, Mr Tsvangirai has asked SADC to intervene. He hopes that Jacob Zuma, South Africa’s new president who currently chairs SADC, will squeeze Mr Mugabe a lot harder than did Thabo Mbeki, his predecessor. Messrs Tsvangirai and Zuma are said to be friendly, whereas the Zimbabwean never got on with Mr Mbeki, whom he suspected of siding with Mr Mugabe.

Another source of friction in the new government is the control of the security forces. In accordance with the power-sharing deal, a new National Security Council, including Mr Tsvangirai, has been set up. It was supposed to replace the notorious Joint Operations Command (JOC), which embraced all the security and intelligence chiefs and was chaired by Emmerson Mnangagwa, the ruthless defence minister. But the JOC has never been disbanded and the new security council has yet to meet. As on other matters, Mr Tsvangirai seems powerless to act.

It is a dangerous situation. Mr Mnangagwa, who oversaw the massacres of alleged “dissidents” in Matabeleland in the early 1980s, is one of the most powerful people in the land, with high hopes of taking over from Mr Mugabe one day. He reportedly heads a shady group known as the Social Revolutionary Council, involving security chiefs and other ZANU-PF toughs bent on saving their skins as well as their lavish perks of office, who are plotting the downfall of the unity government, almost certainly with Mr Mugabe’s approval and possible direction. The old man, whose mind seems as sharp as ever, shows no sign of being willing to retire.

Rumours are now circulating that he may call a snap general election in March, before the new constitution, with its planned limits on presidential power and strict rules for the conduct of elections, can be approved. Zanu-PF leaders have reportedly been telling their supporters to prepare for such a poll, which would be sure to plunge the country back into a state of violence and anarchy. This would upset the South Africans, who are due to host the football World Cup a few months later. So MDC leaders are hoping Mr Zuma will persuade his hitherto spineless SADC colleagues to stop such a move—if they can.

Hints of improvement

Despite all this, MDC leaders are surprisingly optimistic. They are used to Mr Mugabe’s wiles and are determined to outwit him. Given their own inexperience and Zanu-PF’s 29 years in power, their slow start was inevitable, they say. But they feel they are gradually learning to outflank their enemy. “We don’t have guns, but we have the support of the people,” says an MDC minister. “In government, we’ve also got access to intelligence sources for the first time. That is invaluable.”

The MDC’s success is clearest on the economic front. Hyperinflation, which reached a world-record 500 billion per cent in September, is under control thanks to the government’s acceptance of the American dollar and a handful of other foreign currencies as legal tender in place of Zimbabwe’s worthless currency. Prices have even fallen since the beginning of the year. After nine years of recession and a 54% drop in GDP, the IMF says Zimbabwe may grow by 2.8% this year. Tendai Biti, the MDC finance

minister, is forecasting 6%.

But the bankrupt state is still struggling to make ends meet. Mr Biti says Zimbabwe needs $8.5 billion (a figure that seems to have been pulled out of a hat) in the next three years to kick-start the moribund economy. Despite Mr Mugabe's constant complaint about crippling Western sanctions, his country is actually getting nearly $1 billion a year in humanitarian aid. Now donors are beginning to find ways to channel money to government projects where the MDC is in charge, to prevent the cash falling into Zanu-PF's hands. For the first time in nearly a decade the World Bank and IMF have agreed to provide non-budgetary support.

For ordinary Zimbabweans, life has begun to get a bit better, too. Thanks to the government's decision to give an allowance of $100 a month to all civil servants (including government ministers), schools and hospitals have started to reopen. Food is back on supermarket shelves—for those who can afford it. Potholes in Zimbabwe's bumpy roads have begun to be filled in.

But otherwise things are much as they were. Electricity still often cuts out, sometimes for days on end. An estimated 95% of the population is still without formal jobs. A cholera epidemic, which has killed more than 4,300 people, may have abated but the water and sanitation systems are as decrepit as ever. Meanwhile, HIV-AIDS continues to claim some 3,000 lives a week.

Yet, against all the odds, there is a new feeling of hope. Mr Mugabe's secret police are still everywhere, but the fear has gone. People are willing to speak out more freely. Demonstrations and MDC rallies are no longer met with the same violence. Foreign investors are sniffing around. But neither they nor international donors will put big money back into Zimbabwe until they can be sure that property rights and the rule of law are being respected. That, plainly, could still take some time.

Eritrea rebuked by Africa

From renaissance leader to pariah

Jun 4th 2009 | NAIROBI
From The Economist print edition

A regime that represses at home and meddles abroad is pilloried in Africa

AFP



Afro-isolated Afwerki

THE African Union (AU) has taken the unprecedented step of calling on the UN to impose heavy sanctions on one of its own members. It wants to punish Eritrea for helping jihadist fighters in Somalia with arms and training which it says have caused the deaths of many civilians and AU peacekeepers.

The union has also called for a no-fly zone over Somalia and a blockade of its ports. Neither is likely to happen. Air patrols by America and others might win the jihadists more support; a blockade of the long coastline is almost impossible. But the AU may have better luck with sanctions. The UN Security Council has already expressed "concern" that Eritrea may have breached an arms embargo on Somalia.

Eritrea's detractors say it has become a pariah in the mould of North Korea. A one-party state, it jails and even kills those of its citizens with independent minds. It conscripts its young into armed forces far bigger than it needs. At least it has no nuclear ambitions. But it exports instability and inflates its sense of importance by backing rebels in Chad, Ethiopia and Sudan, as well as Somalia. It seems long ago that President Bill Clinton lauded its president, Issaias Afwerki (pictured above), as a "renaissance African leader" after a long struggle brought independence from Ethiopia in 1993.

Mr Afwerki has dismissed the latest charge of gun-running into Somalia as a CIA lie. The AU, he says, has been hoodwinked by Ethiopia, which hosts the African club's headquarters in Addis Ababa. Eritrea is still on a war footing with its larger neighbour over a disputed border. Its main reason for backing the *jihad* in Somalia is to hurt Ethiopia. If Eritrea is to have a chance of beating the Ethiopians in the future, it thinks it must stretch the front-line. Hence it backs separatists in Ethiopia too.

Some say Eritrea's arms shipments to Somalia have been paid for partly by Iran and individual rich Arabs. Maybe so. But Eritrean support for the Islamist insurgency in Somalia is long-standing. And the AU is fed up with it.

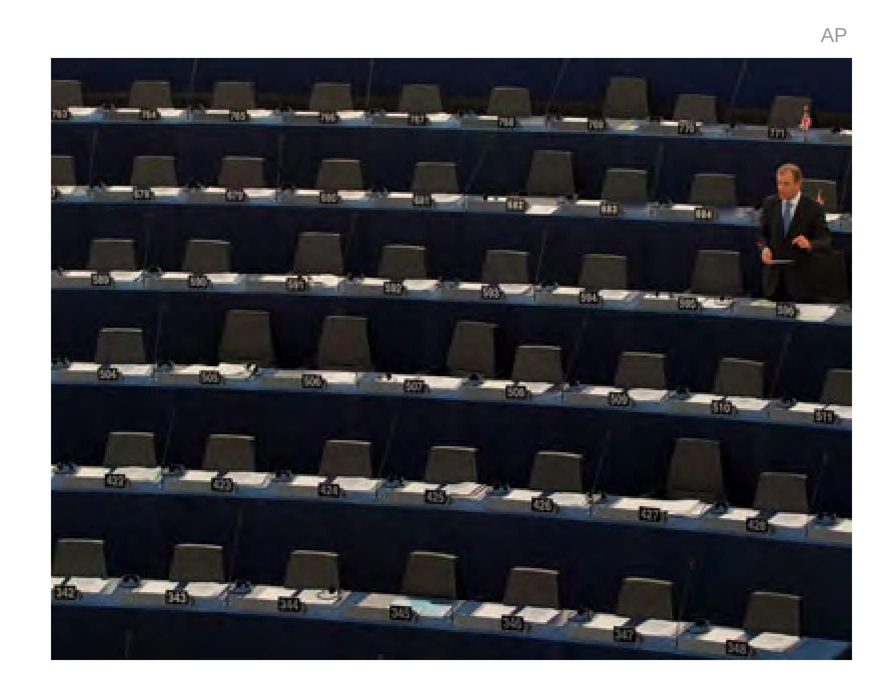
The apathetic European election

Wanted: a vigorous debate

Jun 4th 2009 | BRUSSELS
From The Economist print edition

Despite popular indifference, the power of the European Parliament is growing

AP



THIS is an exciting time to be a member of the European Parliament (MEP), says Andrew Duff, a British Liberal MEP since 1999. The "tide is coming in" for his assembly: much better to secure victory in the European election between June 4th and 7th than to languish in a national body like the House of Commons. "Whenever I am in a national parliament," he observes, "I have the impression they are rather demoralised, because powers are transferring to the European Union level."

The parliament has gained real clout under successive EU treaties. MEPs were once only consulted by national governments (represented in the Council of Ministers). Now the parliament and the council have equal say over three-quarters of EU policies. MEPs can veto the appointment of a new European Commission, the executive branch, nominated by governments to a five-year term. A threat to do this in 2004 forced the Italians to withdraw their choice as justice commissioner (MEPs disliked his stern views on gays and the role of women).

The parliament expects to gain even more powers under the Lisbon treaty, assuming it is ratified by all 27 members. That depends mainly on the Irish, who voted No to the treaty in a referendum last June but are expected to vote again this autumn. If Lisbon comes into force, the parliament will become the equal of the council in almost all EU legislation, gaining new rights in such sensitive areas as farm subsidies, fisheries, border controls, asylum and immigration. MEPs will also have more say over the EU budget, bowing to national governments in only a handful of areas like tax and foreign policy.

All in all, Mr Duff's cheery view of an MEP's life makes some sense. But here is a paradox: it is also rare. Too many MEPs are variously grandees enjoying a well-paid retirement, young thrusters gaining experience before breaking into national politics or political figures enduring exile to Euroland after falling foul of their party bosses. True, some are knowledgeable and diligent, shepherding big laws through the parliament's committees (where the real power lies). Supporters point to such pillars of legislation as the 2006 REACH directive on chemicals, which they say was "rescued" by MEPs when early drafts were blocked by squabbling governments.

Such star MEPs have more influence over the lives of European citizens and businesses than does any national parliamentarian, claims a senior Belgian MEP. "But the frustration for an MEP is that you can do

an amazing European job and not get any media attention.” This frustration is acute at election time, when MEPs sally forth in search of voters, only to be reminded that the public knows little of who they are or what they do—beyond a vague memory that MEPs enjoy lavish pay and perks and waste huge sums shuttling monthly from Brussels to Strasbourg.

To federalist types, the answer is more Europe, meaning the formation of high-profile, pan-European parties that would capture public attention, perhaps by nominating their preferred candidates to be president of the European Commission (see Charlemagne). Yet dreams of cross-border politics stumble on the fact that left-right divisions mean different things in different countries. To take one example, ostensibly left-wing Nordic social democrats are more gung-ho about globalisation than are many Mediterranean conservatives. The big “centre-right” and “socialist” blocks that dominate the parliament are artificial alliances, with shallow political roots.

Boosters say that the parliament will grow into its new powers, attracting higher-calibre MEPs and keeping more of them for a full term (many MEPs now resign their mandates at the first sniff of national office at home, and some never take up their seats at all). One Eurocrat predicts an improvement in committees that are now packed with special interests. The agriculture committee consists largely of farmers and their friends; once it controls the billions spent under the common agricultural policy, goes the theory, it will attract a more balanced membership.

Yet promises that the parliament will grow into its role have been made before. The professionalism of the place has consistently lagged behind its powers. MEPs talk a lot about being the only directly elected element of the EU, accountable to nearly 500m constituents. In truth, MEPs mainly “represent themselves”, claims a senior diplomat, “not the people”.

In a chicken-and-egg problem that has lasted decades, the low profile of MEPs means they operate with little scrutiny, which allows them to act according to their own instincts. Last year British Labour MEPs voted with their Socialist colleagues to strip Britain of an opt-out from an EU directive that limits working hours. In doing so, they were going against the policy of both the British (Labour) government and majority public opinion in Britain. Most British voters have no idea that they did this, however. Depending on your politics, this sort of thing either makes MEPs unsung champions of the European spirit, or makes a mockery of their claims to democratic accountability.

Some causes of voter apathy cannot be fixed. The European Parliament operates by consensus, like a giant coalition government. So Euro-elections will never have the drama of British general elections, notes Richard Corbett, a Labour MEP. “In Britain it is spectacular: you vote to change the governing party, and the furniture vans are in Downing Street the next morning.” This weekend’s election will shift, a little, the balance of power among the big political blocks, but it will probably leave the centre-right as the biggest.

Some things could be fixed, however, including (if France would agree) ending the Strasbourg nonsense. Another idea would be to change the way voters elect MEPs. In many countries they choose only from a party list, with no way of rewarding or sanctioning individuals and no direct link to a constituency. That gives party bosses handy powers of patronage, but it is deadly for democracy.

Spain's troubled prime minister

Zapped

Jun 4th 2009 | MADRID
From The Economist print edition

The difficulty of running a minority government in a deep recession

THE Spanish prime minister, José Luis Rodríguez Zapatero, has the legerdemain of a magician. In last month's state-of-the-nation debate, he plucked many rabbits from the hat: a laptop for every schoolchild, €2,000 ($2,800) for new-car buyers, tax breaks for small businesses who held on to employees. Mr Zapatero did not explain how to pay for all this in a deep recession, but his was a bewitching performance. In a poll asking who won the debate, he beat the opposition People's Party (PP) leader, Mariano Rajoy. With unemployment fast heading towards 20%, this represents a Houdini-like escape from the frustration of many Spaniards.

The problem is that Mr Zapatero is in no position to make big promises. He heads a minority Socialist government. It cannot pass laws without smaller parties. Nor does he control the purse strings of regional governments that must help to pay for his headline-grabbing schemes. Indeed, when parliament voted on them, they had been watered down into vague plans for the future. It was further proof that Mr Zapatero's political weakness is damaging his ability to pep up an economy that shrank by 3% in the past year.

Some of Mr Zapatero's measures were gimmicky, but others were promising. A proposal to abolish tax breaks on mortgages for the better off is politically brave. It marries fiscal austerity with the removal of a subsidy that has long pushed up house prices. And putting the change off until 2011 might encourage buyers to mop up some of the million unsold homes on the market. Yet Mr Zapatero has to negotiate such plans with tiny parties, mostly on the left. "The truth is that right now we do not know what will happen," concludes Fernando Encinar of www.idealista.com, a property website.

Mr Zapatero must have known he could not fulfil his pledges, which seem to have been devised for the European election on June 7th. The polls put the PP level or only just ahead. The PP expects a bigger win but the signs are that the economic crisis has not yet sunk Mr Zapatero. He is helped by the fact that the PP has its own problems—especially long-running scandals that have tarnished its reputation in strongholds like Madrid and Valencia.

The unknown quantity is a new centre party, Rosa Díez's Union for Progress and Democracy (UPyD). Ms Díez, a former Socialist, refuses to define herself along the left-right axis, claiming it has become meaningless. But she is firmly positioned on the other axis that runs through Spanish politics, the balance of power between central government and the regions. Ms Díez, a Basque, is militantly centralist. She believes regional governments have too much power and wants to claw back central control over, for example, education. "A lot of Spaniards now feel that the state itself needs defending," she says.

Her pitch works both on discontented leftists who see Spain's regions as a driver of inequality and on former PP voters worried that their party has shifted too far right. Mr Zapatero wooed the nationalist end of the spectrum before the 2008 election, rewriting Catalonia's statute and seeking talks with the violent Basque separatists, ETA. Many Spaniards disapprove of the Socialist-separatist coalition ruling Catalonia. Ms Díez's aim is for the UpyD to come third in the European election, displacing the communist-led United Left. For his part Mr Zapatero talks of a deal with unions and employers to transform Spain's bricks-and-mortar economy into a knowledge-based one. He will need more than a magician's hat to pull that off.

A European election guide

The checklist

Jun 4th 2009
From The Economist print edition

What to look out for on the night of June 7th

SOME 100 parties winning seats in the European Parliament creates a blur, not a result. These are pointers to look for.

Losing interest
European Parliament elections, turnout, %
65 60 55 50 45
1979 84 89 94 99 2004
Sources: European Parliament; EOS Gallup Europe

• **Turnout**. It has fallen steadily. In 2004 it was below 46%. Polls suggest a majority of Europeans will once again stay away. Turnout in central and eastern Europe was much lower than in the west. The figures are distorted if other elections take place at the same time or voting is compulsory (as in Belgium and Luxembourg). Yet everywhere turnout is lower in European than national elections.

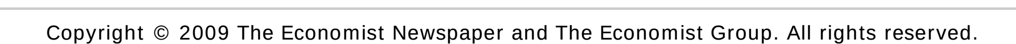
•**Protest voting**. Because little seems to be at stake, people often show dissatisfaction by voting against governments. The economic crisis may increase this trend. Britons have a single-party government to vote against. In Germany and Austria a grand coalition of the two big parties may drive up votes for small or fringe parties. In France the National Front has competition from half a dozen other small parties. In the Netherlands Geert Wilders's Freedom party may do well.

•**Anti-European Union votes**. In Britain UKIP is distinctive in denouncing Brussels and all its works. Libertas, an umbrella group led by Ireland's Declan Ganley, is fielding 600 candidates and may win a couple of seats. Anti-immigrant parties also campaign against the EU.

•**Who will win?** Proportional representation ensures that no party will gain a majority. The European People's Party has the most seats and the Party of European Socialists is second. The EPP will probably still be the biggest group even after losing the British Conservatives (who promise to set up a rival anti-federalist centre-right group with allies mostly from central and eastern Europe), partly because it will gain recruits from Italy.

•**To maximise your influence**. Vote in Estonia. In 2004 it had both low turnout and a disproportionate number of seats.

•**How to vote**. If you are still not sure, go to www.euprofiler.eu, a website created by the European University Institute in Florence that matches your views to your country's parties.



Italy's centre-right leadership

Fini to the fore

Jun 4th 2009 | ROME
From The Economist print edition

What is Gianfranco Fini up to?

FOR 14 years the leader of Italy's former neo-fascists waited patiently in the shadow of Silvio Berlusconi. But since becoming speaker of the lower-house Chamber of Deputies a year ago, Gianfranco Fini has often clashed with Mr Berlusconi, especially over efforts to curb the role of parliament in the name of greater efficiency (recently by trying to cut the number of lawmakers). Mr Fini, says James Walston of the American University of Rome, "has been smitten by Thomas Becket syndrome: a conviction that, when you take on a job, you owe it more loyalty than you do to your old buddy."

Mr Fini's spirited defence of the legislature, though, is just one aspect of a more far-reaching change in behaviour that has made him the most intriguing figure on the Italian political scene. In recent months he has questioned the government's tough immigration policies, implicitly decried the Roman Catholic church's active role in politics and ignored one of the enduring taboos of the traditional right by hobnobbing with homosexual activists.

Associates stress that he has, in fact, been distancing himself from his past for years. They say he was profoundly affected by his exposure to moderate conservatism as a member of the convention headed by Valéry Giscard d'Estaing, a former French president, that drew up the draft European Union constitution. Another influence is said to have been his short stint as foreign minister in Mr Berlusconi's previous government.

Mr Fini's private life may also have played a role in his evolution. In 2007 he separated from his wife, Daniela Di Sotto, whom he met when they were both young members of the neo-fascist Italian Social Movement (MSI). "In doing so, he freed himself from a relationship that tied him to that world," says Alessandro Campi, who heads a think-tank, Fare Futuro, set up by Mr Fini two years ago. The MSI became the core of Mr Fini's National Alliance party, which in March was folded into Mr Berlusconi's People of Freedom (PdL) movement. The PdL is noticeably short of a cohesive ideology—a gap Mr Fini appears bent on filling with what Mr Campi calls a "right built on European lines".

AFP

Fini gave Berlusconi a hand once

That could mean many things. Although happy to back progressive causes, the 57-year-old Mr Fini is no disciple of the free market. He admires the French president, Nicolas Sarkozy. When pressed to cite role models, Mr Campi adds Sweden's prime minister, Fredrik Reinfeldt.

One effect of the PdL's enlargement has been to make the Italian right dependent on the charisma (and longevity) of Mr Berlusconi, a 72-year-old former cancer sufferer with a pacemaker. Not even Mr Fini's friends deny that his lurch to the left is partly aimed at winning him the succession. His handicap is still his past, which many Italians feel makes him an unsuitable candidate for leadership. His strategy is intended to make any claim that he still hankers after neo-fascism not just implausible but patently absurd. But by making himself more acceptable to the voters at large, Mr Fini risks alienating the PdL bigwigs who will choose Mr Berlusconi's successor. Many in the party see him as a maverick. But David Cameron, the British Tory leader, was once seen as a maverick too—and look where he is now.

Silvio Berlusconi's scandal

Scuttlebutt

Jun 4th 2009 | ROME
From The Economist print edition

A model and a prime minister

IT IS not only in Britain that scandal may affect the European election. In Italy claims surrounding the prime minister, Silvio Berlusconi, and an 18-year-old aspiring model and actress, Noemi Letizia, have begun to trouble voters. The insinuation at its root has not been proved. But in his efforts to refute it, Mr Berlusconi has raised bigger questions about his conduct.

The latest concerns the prime minister's use of facilities paid for by the taxpayer. On May 30th, after a complaint by Mr Berlusconi that his privacy and that of his guests had been invaded, prosecutors in Rome impounded a collection of photographs taken outside his Sardinian villa during three parties last year, one of them attended by Ms Letizia. Mr Berlusconi's lawyer said that among other things they showed a former Czech prime minister, Mirek Topolanek, naked by a swimming pool.

But the prosecutors are now thinking of bringing charges against Mr Berlusconi for misuse of public funds, as the photographs show a dancer and his personal minstrel, a singer-songwriter named Mariano Apicella, leaving his official aircraft. The prime minister's office denies that he has broken any rules, which were changed to allow unofficial passengers after Mr Berlusconi regained the job last year.

The scandal began in early May when Mr Berlusconi's wife, Veronica Lario, announced that she was divorcing him, adding that she could no longer stay with a man who "consorts with minors". The prime minister was said to have attended Ms Letizia's 18th birthday party with an expensive present. Suspicions about their relationship grew when Mr Berlusconi's account began to leak. He said he had known Ms Letizia's father for years and dropped by when a gap arose in his schedule. But Mr Letizia seems never to have done the job that the prime minister claimed brought them together. And his sister-in-law said the family had known for months that Mr Berlusconi would be there.

So far no evidence has been produced to show that his relationship with Ms Letizia is or was improper. Her former boyfriend said the prime minister's attitude to her was paternal. At the outset Mr Berlusconi promised a statement to parliament. Not the least of the mysteries in the affair is why he has so far failed to keep that promise.

Charlemagne

Lonely at the top

Jun 4th 2009
From The Economist print edition

The president of the European Commission is under fire from many in Brussels

Illustration by Peter Schrank



ATTACKS on José Manuel Barroso, the president of the European Commission, have intensified before the European election held between June 4th and 7th, and ahead of a European Union summit when national leaders will discuss his reappointment to a second five-year term. On the left, the Party of European Socialists (PES) calls Mr Barroso a conservative who "puts markets before people". Should the PES emerge as the largest group in the European Parliament, it will try to block him.

But prominent federalists are also unimpressed. Guy Verhofstadt, a former Belgian prime minister, speaks for many in Brussels when he denounces Mr Barroso for a lack of ambition for Europe. Mr Verhofstadt invokes the memory of Jacques Delors, the pugnacious Frenchman who ran the commission from 1985 to 1995. Mr Delors proposed many ambitious plans, he says, and got 30% of them: that 30% then became the European internal market. Mr Verhofstadt thinks that last autumn Mr Barroso should have proposed such things as a single EU financial regulator, a single European bad bank, or a multi-trillion issue of "Eurobonds". That would have triggered a "big fight" with national governments, he concedes. But "maybe the outcome would have been 10%, 20% or 30% of his plan."

The French president, Nicolas Sarkozy, has endorsed a second term for Mr Barroso, a former centre-right prime minister of Portugal. Yet he seems keen to make him sweat. French officials have briefed that the decision on Mr Barroso's future taken at the June 18th-19th summit should be only political, leaving a legally binding nomination for later.

Yet the attacks on Mr Barroso are unlikely to block him. No opinion poll shows the PES overtaking the centre-right European People's Party in the European Parliament. The centre-right leaders who hold power in most of Europe have endorsed Mr Barroso, as have the (nominally) centre-left leaders of Britain, Spain and Portugal. This helps to explain why the PES, for all its bluster, has not fielded a candidate against Mr Barroso.

It is equally wrong to pretend that Europe was ready for a federalist big bang last autumn. Officials say Mr Barroso spent the first weeks of the economic crisis bridging differences between Britain and France on such issues as accounting standards and the regulation of rating agencies. Later, he kept the peace between Mr Sarkozy and the German chancellor, Angela Merkel, after the French president pushed for

summits of EU leaders from euro-area countries (Ms Merkel thought that sounded like a two-speed Europe). In any case France has no veto over Mr Barroso's reappointment: the decision is now taken by majority vote. Some diplomats suggest that France's stalling tactics are meant to extract such concessions as a plum portfolio for its commissioner.

Those calling for "European" action often talk as if they are describing an elegant mechanism, needed to make the union work properly. They argue that only a single financial regulator can police Europe's single market, or complain that 27 national bail-out plans lack "coherence". In fact, these apparently structural calls for "more Europe" are pitches for specific ideological programmes. Thus, in a joint statement on May 30th Mr Sarkozy and Ms Merkel announced that "Liberalism without rules has failed." They called for a European economic model in which capital serves "entrepreneurs and workers" rather than "speculators", and hedge funds and bankers' pay are tightly regulated. They added that competition policies should be used to favour the "emergence of world-class European companies", and gave warning against a "bureaucratic Europe" that blindly applies "pernickety rules" (translation: if Paris or Berlin want to aid national champions or broker mergers, they will). If all this sounds like Europe as a giant Rhineland economy, that is no accident.

Mr Verhofstadt, a continental liberal, means something different by "Europe". He agrees that the crisis "represents the crash of the Anglo-American model". But he is not keen on heavy regulation. When he calls for economic policies to reflect Europe's "way of thinking", he means things like raising savings. Above all, he considers the nation-state to be incapable of managing today's "globalised" economy, so Europe must take over. This is fighting talk. Britain, notably, does not accept that everything about the Anglo-Saxon model has failed, nor is it about to cede more power to Brussels. And it has allies, notably in eastern Europe.

Holding the ring

Mr Barroso's job is to act as referee. His first five years made his instincts clear. Although he favours EU integration in many spheres, he does not believe that nation-states are the enemy of Europe. He thinks national governments enjoy a democratic legitimacy that hard-core integrationists ignore at their peril. But he is not without faults. He likes the limelight, and talks forever at press conferences. At times, he has been slow to speak out against big EU governments when they bend the rules. His allies counter that he wants to achieve things, and dislikes playing to the Brussels gallery with bold statements or doomed projects.

But he also has more virtues than Brussels insiders admit. It matters greatly that Mr Barroso grew up under a dictatorship in Portugal. He is a liberal who believes in open borders, for people and goods. Coming from a small, peripheral country, he feels the clubbishness of the old guard keenly, says an ally, adding: "He loathes bullies, this is a man who stood up to a dictatorship's police when he was young."

Above all, he sees Europe as it is: a fractious collection of 27 members. He does not see it as a proto-superstate, or a union cohesive enough to become a giant version of France, Germany or Britain. Such pragmatism may not please the Euro-enthusiasts in Brussels. But thankfully it is not up to them to decide.

Economist.com/blogs/charlemagne

Gordon Brown on the brink

Praying for time

Jun 4th 2009
From The Economist print edition

The prime minister has never been closer to losing office

PA



WHEN Margaret Thatcher paid a famous visit to Gordon Brown in 2007, some wondered what the octogenarian Conservative and her socialist successor- but-two as prime minister might have in common. A future rendezvous may pose no such problem. Lady Thatcher's fall from power was hastened by the resignation of cabinet peers. Mr Brown, whose premiership stands on the edge of an abyss, may soon be embittered for the same reason.

Mr Brown's companion could at least have found consolation in the fact that it took the departure of big beasts, namely the deputy prime minister and the chancellor of the exchequer, to doom her. It is a measure of how weakened Mr Brown has been by the recession, the parliamentary expenses scandal and dire poll ratings that the deserters threatening his authority are middling figures.

It was revealed on June 2nd that Jacqui Smith, the home secretary, would leave the government. Hazel Blears, the communities secretary, resigned a day later. Tainted by revelations about their expenses claims, both women were expected to be sacked in an upcoming cabinet reshuffle. The timing of their news—on the eve of local and European elections on June 4th, in which Labour was already likely to fare badly—seemed calculated to wound Mr Brown. Praise for him was conspicuously absent from the parting statement of Ms Blears, who had received a harsher rebuke from Mr Brown for her nest-feathering than equally culpable colleagues.

There were other losses. Neither Patricia Hewitt, a former cabinet member, nor Beverley Hughes, now the children's minister, will stand at the next election. Both cite personal reasons, but the timing of their announcements told its own story. And whereas many of those exiting are hardly disciples of the prime minister (Ms Hewitt and Ms Blears in particular were close to his predecessor, Tony Blair), Tom Watson, another minister who has quit, is. Mr Watson too named family reasons for going, but he was also embroiled in the expenses scandal and reportedly complicit in Brownite smear tactics. And fury has been stoked across the party by speculation that Ed Balls, the schools secretary, who has a long career as a pugnacious counsel to Mr Brown, is to replace Alistair Darling as chancellor. Such a move would suggest Mr Brown's retreat into a bunker crammed with cronies, say Labour MPs. He has declined to confirm that Mr Darling will be in his job much longer.

The ashes of Mr Brown's premiership seemed to be floating around Westminster even before his weekly

parliamentary showdown with David Cameron, the Tory leader, on June 3rd. The *Guardian*, once a Brownite newspaper, had called on his party to “cut him loose”. Polls of voting intentions showed Labour behind even the Liberal Democrats, the third party.

But a decent showing at the dispatch box bought the prime minister some time. And there are other reasons why, as *The Economist* went to press, Mr Brown could still hope to survive. There is little sign of a co-ordinated strategy in cabinet to unseat him. A thrashing at the polls on June 4th may already be priced into his stock by the political markets. And if his intellectual boldness has been exposed as overrated during his premiership, his sheer durability in a crisis has never been in doubt.

Yet other factors render Mr Brown more vulnerable than at any time since he came to power. One is the emergence of a vaguely credible alternative. Mr Brown survived a crisis last year largely because his party could not agree on a successor. David Miliband, the foreign secretary, has yet to recover fully from his fluffed attempt to get a contest going then. Now there is broad if not fervent support for the notion of Alan Johnson, the genial health secretary, leading Labour into the next election, which must be held by June 2010, if not for very long beyond it (see article).

Moreover, the issue uppermost in voters’ minds has changed, and this does not favour Mr Brown. While the recession was paramount, the economic literacy he accrued in his decade as chancellor marked him out not only from Mr Cameron but also from rivals on his own side. “This is no time”, he said when swatting away Mr Miliband last year, “for a novice”. The political crisis provoked by the expenses revelations has found Mr Brown less assured. He sounds well-meaning on parliamentary reform, but others are more radical. (That Mr Brown began his premiership with loud but ultimately hollow promises of constitutional change is an irony that doubtless torments him.)

Even the pending reshuffle, usually an opportunity to shape events, has become a crisis-in-waiting. Mr Darling and Mr Miliband may refuse to be moved from their posts, forcing the prime minister to back down or sack them. The first course would undermine his authority further and leave the top of the cabinet looking much the same as it did before. The second would create two powerful backbench foes (in addition to Ms Smith and Ms Blears) and anger many in the party. Reviving the cabinet careers of former big-hitters such as David Blunkett and John Reid could create a helpful contrast with the callow Tories, but few seem keen to board a sinking ship.

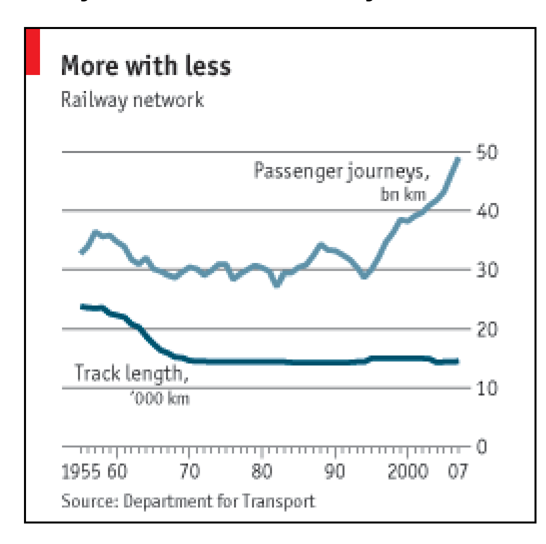
Even if Mr Brown survives June 4th and the subsequent reshuffle, the coming weeks will be agonising for a man so covetous of stillness and certainty. A parliamentary vote on the reform of Royal Mail could be lost this month; a cabinet delegation could appear at his door at any time to demand his resignation; backbenchers could flock to sign the no-confidence letter reputedly doing the rounds; public demands for an early general election to purge Parliament of its sinners could grow to an irresistible clamour. And the reward for seeing all this out is mere survival; a leader who can barely command his cabinet cannot put in place any big new policies in the dog days of his tenure. Mr Brown may avoid the fate of Mrs Thatcher only to be, like another Conservative prime minister of recent vintage, “in office but not in power”.

The future of the railways

Pay up, pay up, and board the train

Jun 4th 2009
From The Economist print edition

Passenger growth suggests more trains, but a destitute Treasury means less money



A GOOD way to be unpopular at dinner parties is to praise the British railway system. Trains rival politicians as a subject on which the only acceptable attitude is one of permanent disappointment, leavened with rage. But if you prefer numbers to opinion, you may conclude that, in many ways, the railways are in rude health. Passenger traffic has risen by 35% over the past decade. It is higher than at any time since the second world war, on a much smaller network (see chart). Safety continues to improve, and even punctuality is up. According to the annual report published on June 3rd by Network Rail, which owns and maintains the track, 90.6% of trains ran on time last year (although Britain's definition of punctual includes trains up to ten minutes late).

Many of rail's problems are due to its popularity. Plenty of commuter routes into big cities are standing-room only. So many trains crowd the rails that timetables are sensitive to even small delays—one broken-down train can cause long waits for dozens of others. Though passenger growth has slowed in recession, the appeal of trains is likely to keep rising. One estimate has passenger numbers doubling over the next 20 years, thanks to a mix of road congestion, the expansion of urban employment and green concerns.

With that in mind, Network Rail and the Association of Train Operating Companies have been laying out plans to increase capacity over the next 20 years. Some are modest, including longer trains and platforms. Others are bold, such as electrifying more track (only a third of Britain's railway is electrified, low by Western standards) and building lines in crowded cities. Boldest of all is a long-mooted French-style high-speed service between London and Birmingham, which a government-sponsored company called High Speed 2 is now investigating. All these are in addition to £5.5 billion ($9 billion) in planned extensions to London's Thameslink route, 1,300 new carriages for commuter lines and more capacity at crowded stations such as Birmingham and Reading.

Yet all that will cost money, and money is a sensitive subject for the railways. Britain's national network has never been profitable, and in the years since privatisation costs have exploded. The official subsidy has exceeded £4 billion a year since 2006, though it was averaging about £1.5 billion when the state stopped running the railways. Ministers decided in 2007 that passengers would shoulder more of the burden through higher fares.

Alamy

In many ways that is sensible, since trains are by and large used by the better-off. But fewer than half of passengers think the trains are good value now, and the commuting classes are articulate and politically powerful. Government-commissioned research from Passenger Focus, an outfit charged with sticking up for passengers, found that British fares were the highest in Europe. Commuter tickets to London are around twice as expensive for the same distance as in the next-priciest country, France. Admittedly, cheap deals are available for people willing to shop around. But, as with airlines, most must be booked far in advance, and only a few customers get the lowest prices.

All this leaves the government in a bind: new capacity is desperately needed; increasing the subsidy is politically distasteful; and forcing passengers to pay more would be explosive. “At the moment, no one is prepared to have this discussion,” says David Leeder, the vice-chairman

of the Commission for Integrated Transport, a think-tank. Transport has been a political backwater for years. The current rail minister, Lord Adonis, is the first in recent years to have a detectable interest in his brief, but with electoral defeat looking inevitable for Labour, he is unlikely to be in his post for very long. The Tories have little more to say on the subject than Labour.


High speed, short distance

But parlous public finances may force politicians to face up to awkward choices. Although the current recession is not expected to dampen passenger growth for long, ballooning government debt will constrain spending for years. If passengers are unwilling to pay for the improvements, they may not get them at all.

Extending freedom of information

Uncovering the next scandal

Jun 4th 2009
From The Economist print edition

An opportunity to roll back state secrecy a bit more

THE sorry saga of MPs' allowance-fiddling has had one positive spin-off: politicians no longer dare claim that such information should be kept secret. This week Gordon Brown, the prime minister, said he wanted to strengthen the Freedom of Information (FOI) Act of 2000, allowing citizens to probe the "dark recesses of power [where] too much information is held".

Mr Brown is admired by transparency campaigners for binning a plan by his predecessor, Tony Blair, that would have crippled the act by imposing limits on the number of information requests an individual could make, and on their complexity. Now, with the public anxious about how its money is being (mis)spent, he has the chance to open things up more.

There is plenty of scope for extending the act's reach, starting with contractors such as drug-treatment charities or prison operators that perform work for public authorities. Such services are transparent when run by the state but fall off the radar if they are contracted out. (Some fear that having to comply fully with FOI requirements might put firms off bidding for work.) Private-sector companies serving a public function, such as water utilities, could be included too.

Nosey parkers would also like to poke around intriguing anomalies such as Network Rail, a taxpayer-funded not-for-profit outfit, and the self-regulatory Press Complaints Commission, which are currently exempt. The government could also reverse the exemption from FOI that it made for Northern Rock, the failed bank it now owns. Banks in which the taxpayer has a controlling interest, such as Royal Bank of Scotland and Lloyds Banking Group, should be sweating too.

Another target is the rule under which public records are released only after 30 years—a nonsense now that every sacked minister or mandarin flogs his memoirs within six months. In 2007 Mr Brown commissioned a report by Paul Dacre, the editor of the *Daily Mail*, which recommended in January that the period be halved. The report accepted, nonetheless, that certain "sensitive" information might be worth "enhanced protection"—which would allow the government to make some documents harder, rather than easier, to get.

Mr Brown's main objective, however, should be to get the current law working properly. "It's much more important to get rid of delays than to extend or strengthen the act," says Maurice Frankel, director of the Campaign for Freedom of Information, a lobby group. Some of the worst offenders are Whitehall departments, notably the supposed guardian of FOI policy, the Ministry of Justice (which missed the deadline for an FOI request by *The Economist* only this week). Investigations by the information commissioner, the official watchdog, often take more than a year. Christopher Graham, who takes over the job this month, must speed things up; the government can help with more money.

Downing Street now says it wants a public debate about freedom of information. In fact there has already been one: the Ministry of Justice finished a consultation on extending FOI in February 2008, but has still not responded to its recommendations. Nothing has been done on the 30-year rule either, five months on from the Dacre review. Mr Brown should make use of whatever time he has left.

Assisted suicide and the law

Hard cases

Jun 4th 2009
From The Economist print edition

The latest attempt to clarify the murky rules on hastening another's death


Getty Images

Purdy and helpmeet think ahead

JUST one act in Britain—suicide—is legal to do yourself but illegal to help someone else commit. That singularity results from the Suicide Act of 1961, which decriminalised suicide but made assisting one punishable by up to 14 years in jail. The intention was to treat compassionately those who tried and failed to kill themselves (until that year they risked prosecution) while keeping other obstacles in the path of those contemplating suicide.

That fine and difficult judgment is being revisited this week in the House of Lords, in two different ways. Debbie Purdy, who has primary progressive multiple sclerosis, wants, when her life has become unbearable to her, to commit suicide at Dignitas, a clinic in Switzerland, where assisted suicide is legal. By then she may be unable to travel alone, but under British law if her husband helps her, or even goes with her, he is likely to be committing a crime.

Ms Purdy has already tried and failed in two lower courts to force the director of public prosecutions to spell out the circumstances in which he would prosecute her husband. Without that clarity, rather than involving him she will travel alone while she is still able to. "I'm more frightened of being trapped in a body that's in pain and there's nothing I can do about it, than I am about dying early," she says.

The five law lords who heard Ms Purdy's case are unlikely to publish their judgment for some weeks. But her hearing coincided with the passage through the House of Lords of the Coroners and Justice Bill—and it provides an opportunity for lords sympathetic to Ms Purdy's predicament to give her and others in a similar position the certainty they want.

Two clauses in the bill concern assisted suicide. They make it clear that encouraging others online to kill themselves counts as assisting suicide, even if it is never known who, if anyone, has killed himself as a result. Lord Falconer, a previous lord chancellor, proposes an amendment with a different twist. If someone declares before an independent witness his intention of committing suicide, and two doctors certify that he is terminally ill, a person accompanying him abroad for that purpose should not face prosecution.

Almost 800 Britons have signed up with Dignitas, Lord Falconer points out, and 100 have ended their lives there. Though prosecuting those going with them has in no case been deemed in the public interest, many fellow travellers have been interviewed by police and waited for months to learn that no charges would be brought. It is "time now for the law to catch up with the reality," he says.

Four-fifths of Britons support changing the law. Since the Suicide Act, the nation has become less paternalistic, less likely to think the sanctity of life trumps all else and more likely to think that personal autonomy does. And a trickle of tragic tales keeps the issue in the public eye.

One such was that of Daniel James, a 23-year-old who, unable to bear having been paralysed in a rugby accident in 2007, persuaded his parents to accompany him to Dignitas last year. But Lord Falconer's amendment would not have made them immune from prosecution: their son was not terminally ill. Whatever the lords decide, there are sure to be more hard cases, and more attempts to change the law.

Britain's grim outlook for jobs

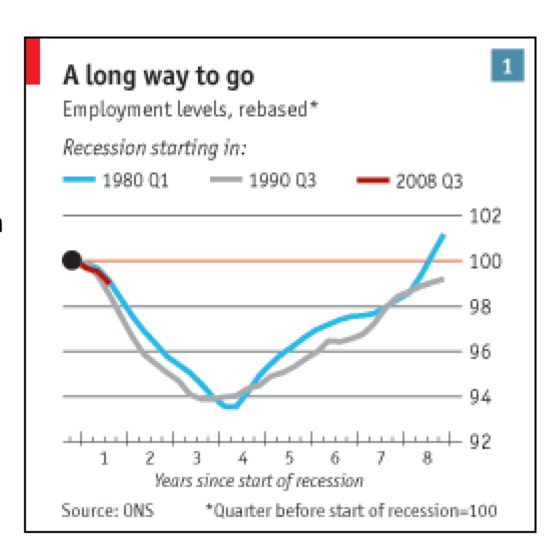
Out of work and out of luck

Jun 4th 2009
From The Economist print edition

Unemployment will carry on rising long after the recession ends

THERE were fresh signs this week that the economic outlook may be brightening. Manufacturing and construction fell again in May but they are no longer plunging, according to the latest surveys of purchasing managers. The finding that the big services sector expanded last month was especially encouraging.

But even if the economy does turn up before too long, the prospects for the jobless still look grim. So far employment has fallen by 1% since it peaked at 29.5m in the second quarter of 2008. That is about the same drop as at a similar stage in the economic downturn of the early 1980s, and a bit less than the 1.5% decline in the early 1990s. Employment carried on falling long after those two recessions had ended, to a trough more than 6% lower than the preceding peak (see chart 1).



That augurs ill for job prospects today. The ranks of the unemployed have already swollen to 2.2m, the largest since 1996. In the early 1980s the jobless rate rose from 5.5% of the labour force before the recession to 11.9% three years after it had ended. A decade later it increased from 6.9% to 10.6% six months after a sustained recovery had started. These precedents suggest that the unemployment rate, which has already gone up from 5.4% in spring 2008 to 7.1%, will carry on rising and end a lot higher, almost certainly above 10%.

If past experience points to a bleak outlook for jobs, so too does the sheer scale of this downturn. Output has already dropped by more than 4% over the past year, more than the 2.5% peak-to-trough fall in the early 1990s and approaching the 4.6% decline in the early 1980s. With a further contraction in GDP still likely despite the growing economic optimism, this recession looks set to deliver an even bigger blow to employment than the previous two. Moreover, unemployment tends to rise especially steeply as a result of recessions linked to financial crises, according to recent research from the IMF.

Even so there are some reasons to hope for a better outcome this time. For a decade or more, the labour market has been working better than before. The burden of regulation has increased under Labour, but the greater flexibility brought about by Margaret Thatcher’s curbs on union power has not been thrown away. The woeful experience of the 1980s, when unemployment kept on rising for so long, is unlikely to recur. The labour market should bounce back more readily in Britain than in other big European economies such as Germany and France, says John Philpott, chief economist at the Chartered Institute of Personnel and Development.

That flexibility should not be exaggerated, however. True, employers are pushing through measures like pay freezes that were once unthinkable, and this should reduce job losses. Yet this is less remarkable than it may seem: retail prices are falling anyway, and real earnings also dropped at the outset of the previous two recessions. Nor have firms been more willing to retain staff on shorter hours than in the past. Falls in hours worked are quite close to those at a similar point in the earlier downturns.

The limited gains from flexibility suggest that there is still much pain to come. The main casualties are already apparent. Even in good times youngsters struggle to get a foothold in the labour market. That makes them especially vulnerable now that employers are shedding staff. The careers of young people who are unemployed for a year or more are likely to be permanently scarred, says Paul Gregg, an economist at Bristol University.

An ominous pattern is beginning to emerge. The employment rate of those aged 18-24 fell by 3.9 percentage points in the year to the first quarter of 2009. By contrast, it declined by only 1.5 points among 25-34 year-olds and by 0.4 points for older people up to the state-pension age. The jobless rate among 18-24-year-olds, just under 10% in late 2003, has jumped to 16%, a level reached in the early 1990s only after the recession had ended (see chart 2).

The government has introduced new policies to help young people and to arrest a drift into long-term unemployment. Since April employers have been eligible for a subsidy of £1,000 if they recruit someone who has been out of work for at least six months. And from January 2010 any young person who has been jobless for a year or more will be guaranteed a job or training assignment. Jobcentre Plus, the first port of call for the newly unemployed, has been given more resources (see article).

But even with this extra support, labour-market portents still look grim. Economic confidence may be slowly returning, but it will take a lot longer for employment to recover.

Jobcentre Plus in the recession

Leaning against the wind

Jun 4th 2009
From The Economist print edition

How an outfit designed for the good times is coping with bad ones

GET off the Underground at Stratford in east London and you might wonder whether there was a recession on at all. The shopping centre is bustling and builders are hard at work putting up facilities for the Olympic games.

There are still plenty of new "customers" at the job centre near the station, however. The Stratford branch is one of 750 run by Jobcentre Plus, the government's job-search and benefit agency. Before the recent jump in unemployment it had been focusing particularly on getting longer-term claimants back into work, says Mel Groves, its acting chief executive. Now it faces a huge challenge in dealing with the new people passing through its doors.

Getty Images



And now to polish those interview skills

Staff at Stratford are offering special sessions for new claimants of jobseeker's allowance (JSA) on how to search for work online as well as guidance on preparing CVs and interview techniques. Getting a job is a far from hopeless task for those with the right skills and determination. Even in recession, there is great turnover in the labour market. Across the country there are 10,000 new vacancies available at Jobcentre Plus every working day, and half of new JSA claimants leave the register within three months.

People on unemployment benefit must look for work, and the job centre keeps tabs on how they are doing. Once they have been out of work for 13 weeks, staff chivvy them along more. "This is the point when we say they should consider a wider range of occupations, be more realistic about wages and look farther afield," says Graham Houghton, who is responsible for branches in east London.

Jobcentre Plus itself is "getting bigger by the day because of the recession", says Mr Groves. With 70,000 employees it is already the government's biggest agency, and it is adding an extra 10,000. Apart from helping JSA claimants, staff are also trying to get other working-age people on benefits into jobs. In particular, lone parents may no longer stay on income support (without looking for work) until their youngest child is 16; that age has been lowered to 12, and will come down to seven by October 2010. Those affected are being moved on to JSA, which means that they must hunt for jobs. The government is also trying to curb the number of people on incapacity benefit, which has stayed stubbornly high at over 2.5m.

Unlike employment services in many countries, Jobcentre Plus brings together job search and the delivery of the main working-age benefits. Created in 2002, the agency was expected to spearhead efforts to get people off welfare and into work. But rather than rising as the government had hoped, the employment rate is now falling, in the past year from 74.8% to 73.6%. The ambition to reduce long-term dependency on government handouts may suffer as Jobcentre Plus struggles to cope with the incoming tide of those who have lost their jobs.

To hear an interview with Mel Groves, go to Economist.com/audiovideo/Britain

Reshaping financial supervision

Flood warning

Jun 4th 2009
From The Economist print edition

Confused regulators face a rising European tide

Illustration by David Simonds



ON MAY 27th a 16-page bombshell from the European Commission, outlining a new framework for pan-European financial supervision, hit Whitehall. Not exactly unexpected, it foresees a supervisor with real executive power and the ability to force terms on disputing governments in a crisis. Moreover, it gives members of the euro zone a bigger say on questions of systemic risk than those who have clung to their own currency: through two members of the European Central Bank's governing council, on which Britain has no seat.

British regulators are unhappy. They would rather see a decline of relatively unfettered branch banking throughout the European Union (EU), and apply stiffer prudential rules to foreign branches on their turf, than honour EU passports for bank branches and enforced burden-sharing when some banks go bust.

This may seem arcane, but for the British, who have long occupied the intellectual high ground of financial policymaking in the EU, it is a blow to see the initiative wrested from them. Their reputation has yet to recover fully from the collapse of Northern Rock, a mortgage lender, in 2007. They are still smarting, too, from the collapse last October of two Icelandic banks with operations in Britain, which left British taxpayers footing some of the resulting compensation due to depositors.

Treasury mandarins are already unsettled by doubts about who the chancellor of the exchequer will be next month or even next week. Meanwhile, a plethora of worthy advice about how to reform British financial regulation within a European framework—and perhaps a global one—is flooding in. A House of Lords committee added another 68 pages on the subject on June 2nd. Among some practical suggestions, such as giving prudential supervision back to the Bank of England, it absurdly proposed that credit-rating agencies be obliged to invest in the assets they rate. The following day Lord Myners, the City minister, expressed reservations about the intrusiveness of the regulatory proposals from Brussels. The Treasury is expected to produce proposals of its own this month.

The fear in the City is that heavy European regulation will stifle the financial centre's flair for innovation, and indeed drive business offshore. A recent proposal from Brussels to apply prudential rules to managers of alternative investment vehicles—such as hedge funds—big enough to upset the banking system if they collapse has been met with indignation.

Yet some argue that the danger of being left outside the policymaking process is greater. In March Lord Turner, the new chairman of the Financial Services Authority (FSA), embraced the prospect of more co-ordinated European supervision. The alternative, he said, would mean "a significant retreat from single-market freedoms". Graham Bishop, an expert on EU regulation, finds it "extraordinary" that British negotiators are backtracking on some global principles they agreed to, along with the rest of the EU, at the April G20 summit in London. He fears that Europe may go ahead with a two-speed system of regulation.

Charles Goodhart of the London School of Economics suspects that European regulators will find it hard to impose burden-sharing anyway, in a financial landscape that is becoming more fragmented and national. And Andrew Hilton, of the Centre for the Study of Financial Innovation, a think-tank, worries that if British regulators have no real input, their European counterparts are likely to make a hash of things. The worst outcome would be knee-jerk rule-making at a time when banks, for a while at least, are unlikely to behave that recklessly, he says.

The first concern must be to reshape financial regulation to stabilise the system. But ill-thought-out calls in the heat of the moment for more safeguards and expensive compliance may tend mainly to increase concentration and reduce competition. The trend is clear: two years ago Europe's 45 biggest banks held 66% of bank deposits. Now, 40 of them hold 70%.

Bagehot

The postman rings twice

Jun 4th 2009
From The Economist print edition

What Alan Johnson might offer the Labour Party and the country

Illustration by Steve O'Brien



IN SOME ways it feels like a re-run. The hysteria over Gordon Brown's leadership involves many of the same plots and characters as the regicidal frenzy that seized the Labour Party last summer. But there are important differences. One is the carnage wreaked by the expenses scandal. Another is the increased desperation of Labour MPs. A third is the emergence of a front-runner to move into Number 10, should Mr Brown be forced out of it.

That man is Alan Johnson, the health secretary. A mysterious process of Westminster distillation seems to have removed other contenders, at least for any vacancy arising before a general election. David Miliband, the foreign secretary, felled himself with a banana; Harriet Harman, who beat Mr Johnson in a 2007 race to become Labour's deputy leader, ruled herself out. Mr Johnson could in theory be prime minister within weeks. That dizzying possibility raises two big questions for the millions of Britons who have barely heard of him. Who is he? And is he up to it?

In an age when too few politicians have had a career before mounting the slippery pole, Mr Johnson can cite several. Raised by his sister in a council flat, he left school at 15, stacked shelves in a supermarket and at 18 became a postman. Once a Marxist, he rose through the trade-union movement, won the admiration of Tony Blair (Mr Johnson supported the abolition of Clause Four, Labour's old commitment to nationalisation) and entered Parliament in 1997. He didn't fiddle his expenses. In the new age of austerity in economics and sleaze in politics, this penurious and industrious back story would be especially useful in a face-off with David Cameron, the pukka leader of the Conservatives.

Mr Johnson is no "clean skin". He has been in the Labour government almost since the beginning. In his assorted offices, including his current one—but especially when he helped steer Mr Blair's plan for variable university-tuition fees through the Commons—he has won a reputation for low-key charm and persuasion. Those skills could matter to Prime Minister Johnson, who would need to create a united government from the traumatised wreck of a party he would inherit. (Helpfully, his thrusting younger colleagues would probably not see the 59-year-old Mr Johnson as a long-term obstacle to their own leadership aspirations.)

To an extent that Mr Johnson may now regret, his affability has occasionally extended to bald self-deprecation, specifically about his aptitude for the very top job. “I don’t think I would have been good enough, frankly,” he admitted in a candid radio interview in 2007. He has since sounded more equivocal: “I am not saying there would be no circumstances,” he said last month of a putative leadership bid, while consistently denying any plan to launch one. During Mr Brown’s travails Mr Johnson has often been inconspicuous but has occasionally emerged to defend his boss, as he did on June 3rd. If Mr Brown is knifed, Mr Johnson’s hands will be clean.

Special delivery

Answering the second question—whether Mr Johnson really is up to it—involves a prior one. What exactly is the “it” that he needs to be up to? The premiership is always an awesome, enormous job, complex, relentless, urgent and multifarious in a way that has proved beyond Mr Brown’s real but narrow abilities. Any incumbent has to be ready to deal with international crises, take decisions coolly but efficiently, and make and sell government policy, among other things. But the role Mr Johnson would have to fill would be shaped by the peculiar circumstances that elevated him, and by the ebbing dynamics of the last months of Labour’s long imperium.

Mr Johnson has not evinced the grasp of macroeconomics that Mr Brown boasts. He is unlikely to wow economics laureates with his diagnosis of the financial crisis or define the agenda of a G20 summit. On the other hand the template of Labour’s policies for failing banks has been established, and Mr Johnson does enjoy a recession-friendly talent that Mr Brown lacks: the ability to soothe voters worrying, beneath the expenses furore, about their own homes and jobs.

Nor does the health secretary have a rival approach to government of the kind offered, for example, by Michael Heseltine when he challenged Margaret Thatcher in 1990. Mr Johnson was an obedient Blairite, and has recently advertised his enthusiasm for electoral reform, but that scarcely amounts to a distinct political philosophy. Yet the situation scarcely cries out for whizzy new doctrine: Mr Brown has tried to tout a sort of neo-Keynesian statism, without dramatic success. Mr Johnson would need to govern competently for the remaining months of Labour’s mandate, and perhaps make progress on public-service reform. He might.

From Labour’s perspective, the immense humiliation of installing a third prime minister in a single parliamentary term would be justified only if he reversed the party’s giddying slide in and at the polls. Nobody can know for sure whether he would. But it is hard to imagine that the party would fare worse electorally than under Mr Brown. Mr Johnson would probably pull back in some disillusioned English voters, maybe avoiding the utter, fissiparous general-election rout that now seems likely (it would help if he were to set a date for the election straight away).

The ultimate question about Mr Johnson, of course, is not “who” but “whether”. Will a putsch lead to the anointment of the most unlikely prime minister of modern politics? As *The Economist* went to press, the answer depended on the results of the local and European elections on June 4th, the skill or cack-handedness of Mr Brown’s impending reshuffle, and most of all the will of MPs and especially cabinet ministers to force the prime minister out. If he goes, it will probably, and understandably, be Mr Johnson who inherits the tarnished and temporary crown.

Economist.com/blogs/bagehot

The United States and Islam

Let nations speak peace

Jun 4th 2009
From The Economist print edition

After the chill of the Bush era, ties between America and Islam can only get better—but how much better?

Aurora



IT IS three years since Senator Barack Obama pronounced that America "is no longer a Christian nation—at least, not just." The words sounded harsher than he intended: he meant to make the point in a more positive way, stressing that the United States was as much a Jewish, Muslim, Buddhist, Hindu or non-believing polity as a Christian one. In Turkey in April the president seemed to turn the formula on its head, declaring that "We do not consider ourselves a Christian nation or a Jewish nation or a Muslim nation" but "a nation of citizens" bound by values.

And in a warmly received speech in Cairo on June 4th, which repeatedly cited the Koran, he called for a "new beginning between the United States and Muslims around the world" based on the "truth that America and Islam are not exclusive, and need not be in competition."

The philosophy may not be perfectly coherent, but the mood music is clear—absolute opposition to sectarianism, to any emphasis on religious difference rather than commonality. And quite a lot of Muslims seem willing to hear it.

Take the reaction to a recent appointment that caused far more interest outside America than inside it. When Dalia Mogahed, an Egyptian-American social scientist, was invited in April to join a White House advisory panel, the press in her native land gushed with excitement.

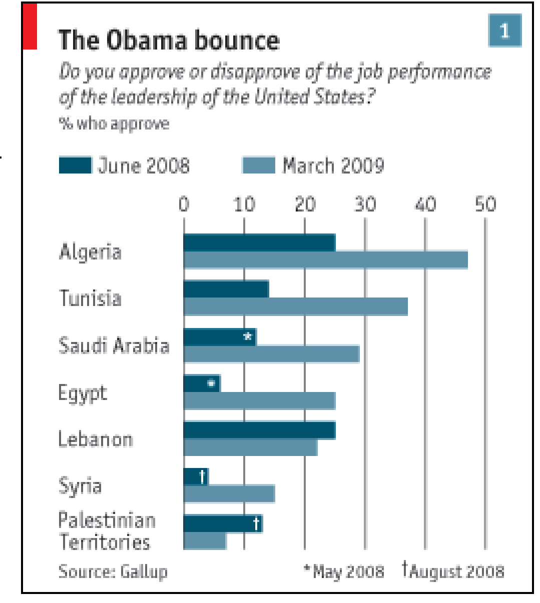
This was not just because Ms Mogahed, who analyses the Islamic world for Gallup, a polling organisation, is a devout Muslim. Her appointment (to a 25-strong panel on "faith-based and neighbourhood partnership") was also hailed as an endorsement of her argument that Islamic and Western values are more compatible than civilisational warriors think.

The exuberant reaction to Ms Mogahed's nomination suggests that, for those willing to look, there are easy ways to warm up relations between the United States and the Muslim world (including America's Muslims); the Obama presidency is busy finding them. Such was the suspicion between most Americans and most Muslims in the Bush era that it did not take much to improve the climate. One thing that helps is big presidential speeches (in Turkey in April and in Cairo this week); another is a sprinkling of domestic job offers, mostly to younger Muslim Americans.

In Turkey Mr Obama's visit is remembered less for what he said, than for some neat choreography that

managed to please devout Muslims without upsetting secularists. His body language went down well—"He's like us, eastern, warm."

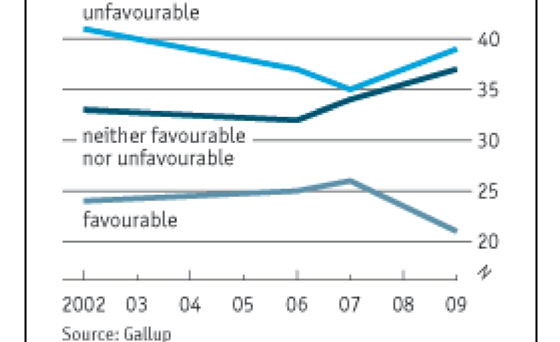
And as some recent Gallup findings show, the change of guard in the White House led to an immediate upturn in attitudes to America's leadership among most Arab Muslims (see chart 1), with the exception of Lebanese and Palestinians. Meanwhile the American public perceives the Muslim world as hostile to the United States, but it does not—to anything like the same extent—reciprocate that hostility. Although a steady 80% of Americans believe Muslim countries are unfavourably disposed to their homeland, only 39% of Americans (see chart 2) return the compliment by voicing "unfavourable" attitudes to the Muslim world.



This suggests that a section, at least, of America's electorate is open to the idea of better links with Islam. In Washington's establishment, meanwhile, venerable figures like Madeleine Albright (who as secretary of state gave military help to the Balkan Muslims) are rehearsing reasons why America and Islam can be friends.

For groups committed to that principle, the change in climate feels dramatic. Daisy Khan, co-founder of the American Society for Muslim Advancement, predicts that a wave of second-generation Muslim-Americans will now enter politics, unlike their cautious, apolitical parents. In Obama's America, she thinks, the overseas ties of Muslims can help with civic diplomacy.

Well, perhaps not all overseas ties. Parts of the American Muslim world are still in shock over long sentences handed out in May to five leaders of the Holy Land Foundation, a charity, on charges of helping Hamas. As a result of the trial, America's law enforcers have scaled down once-friendly ties with some Muslim-American bodies.



In its choice of Muslim personnel, the Obama administration has artfully sought out people with little involvement in the messy world of institutional Muslim politics. But making easy gains, and dodging controversies, including religious ones, has its limits. Hard choices may lie ahead in the area of religious liberty.

Philosophically, America's Commission on International Religious Freedom (a bipartisan body that advises Congress and the White House) is in step with the Obama mood. Its latest global report stresses that in many places, Muslims are victims of discrimination, not its perpetrators. Suffering Muslims (be they Uighurs in China or Shias in repressive Sunni states like Saudi Arabia) need America's support—as part of a foreign policy that favours just, tolerant societies. So the commission believes, and so the Obama people, in theory, say too.

But how far will the president go in scolding states identified by the commission? Its report adds five new countries (including Iraq, Nigeria and Pakistan) to the eight already classed as "countries of particular concern" over religious liberty. Among 11 countries placed on the commission's "watch list" are Afghanistan, Indonesia, Tajikistan, Turkey—and Egypt. Hillary Clinton, the secretary of state, will meet the commissioners soon, and they will have some hard questions for her.

Banning bomb materials and bomb tests

Making a start

Jun 4th 2009
From The Economist print edition

But there are plenty of pitfalls ahead

AP



Do you sincerely want to be enriched?

IS NUCLEAR disarmament, however slowly, turning into something more than a slogan? When Barack Obama committed America, in a speech in Prague in April, to "seek the peace and security of a world without nuclear weapons", he singled out two treaties as being essential first steps in realising his vision.

One, agreed on years ago though still not in force, bans all nuclear testing. The other would end the production of fissile materials for bombs. Last week the 65-nation Conference on Disarmament (CD) broke a decade-long stalemate, agreeing that negotiations on this treaty can now start. But how far will they get?

The agreement to negotiate a fissile-material cut-off treaty (FMCT, to disarmament buffs) involved a patchwork of compromises. Until recently China, backed by Russia, had blocked the path, insisting that there must also be parallel talks on a treaty to curb an arms race in space (read: American missile defences). Instead there will be less formal "discussions". Two other working groups will explore more binding "negative security assurances" (promises by those that do have bombs not to use them against those that do not) and broader disarmament issues.

Yet an FMCT will still be hard to achieve. Even small diversions from civilian stocks can be militarily useful. According to recent studies published by the Washington-based Nonproliferation Policy Education Centre, such cheating is hard even for the International Atomic Energy Agency, the UN's nuclear guardian that backs up the Nuclear Non-Proliferation Treaty (NPT), to detect in a timely fashion.

And that points to the deal's most controversial compromise. The Bush administration had opposed negotiating a "verifiable" FMCT, as the original mandate required, on the ground that if they could be made effective at all, international inspections would be too costly and intrusive for governments to tolerate. Instead America supported a less ambitious treaty that relied on "national means and measures" (spy satellites and the like), which few others have. The treaty to be negotiated is now supposedly back to being "verifiable", but it remains to be seen whether the CD can agree on how to do that.

The politics are as treacherous as the technicalities. North Korea eventually signed up last week, but it had just staged a bomb test that brought swift condemnation from the UN Security Council and had announced that it is stepping up plutonium production. It may enrich uranium too. Hardly encouraging.

Some governments had found the old, inflexible America useful to hide behind and will miss it. India could profess its commitment to an FMCT, thus burnishing its non-proliferation "credentials" despite the fact that it had built and tested bombs outside the NPT, in the certain knowledge that it could go on churning out weapons materials regardless. The treaty is still far from being agreed on, but India's ambassador to the CD insisted her country would accept no obligations that hinder its "strategic programme".

Pakistan, seeing itself at a disadvantage to its bigger rival, has long argued that past stocks should be monitored too. India says no. With China's help, Pakistan had already been expanding fissile-material production. It was alarmed by a controversial nuclear deal between America and India last year that created a loophole in anti-nuclear rules. This allows India, uniquely among those like Pakistan and Israel

that have stayed outside the NPT, to get civilian nuclear help and fuel from abroad. Inevitably India will now be able to direct more of its scarcer domestic uranium to its military needs. That development and talk of an FMCT, however remote, will in all probability encourage Pakistan to make the stuff even faster still.

At home, Mr Obama will have a fight to persuade the necessary two-thirds of the Senate to ratify the other treaty deemed essential for progress in disarmament: the Comprehensive Test-Ban Treaty (CTBT). It was rejected in 1999, on a partisan vote. Mr Obama's Democrats have more seats this time, but still not enough. Debate will once again revolve around whether a test ban can be properly verified, and whether America can afford to do without testing indefinitely (it stopped in 1992) as its own nuclear warheads age.

But some things have changed in ten years. At home, powerful computers for modelling test explosions have managed to solve problems that had once had even the testers stumped, and America's warheads have been shown to be more robust than first thought. The global system of monitoring stations being built to back up the CTBT was just a plan in 1999 but is now nearing completion (with some in America). North Korea's second nuclear test, in May, was also a test of the system's capabilities which it passed easily.

A concern has resurfaced that Russia, which has ratified, might be cheating by conducting very small nuclear tests, although America formally withdrew this complaint some years ago. Where such doubts arise (some also suspect China), there is provision for on-site inspection.

But as things stand, such inspections can be invoked only with the treaty in force. Several required ratifications are still outstanding. America's could prompt China, and a couple of others, to follow suit. But India will not even sign the CTBT, let alone ratify it. Pakistan will not if India does not. And North Korea clearly is not in the mood.

Development aid from authoritarian regimes

An (iron) fistful of help

Jun 4th 2009
From The Economist print edition

China, Iran, Russia and Venezuela have been doling out largesse. Should Western democracies be worried?

CONGO and the International Monetary Fund are arguing about a bail-out. What's new, you might ask. Dog bites man. But the sticking point is, unexpectedly, not the country's economic policy, but how exactly to repay a $9 billion credit that Congo secured last year from China.

China's deal with Congo, and the disputes arising from it, are examples of a growing trend. Authoritarian governments are using their money to buy influence abroad. Sometimes the money comes as a commercial loan; sometimes, as a grant; frequently, as both. These flows are changing the business of aid, undermining attempts by Western countries to improve their programmes and encouraging recipients to play donors off against each other.

The use of aid to win friends and influence people is not new. America and the Soviet Union both used aid as a weapon in the cold war. Now a 21st-century equivalent is emerging. A study this week by a group of American institutions, Freedom House, Radio Free Europe/Radio Liberty and Radio Free Asia, looks at the use by China, Iran, Russia and Venezuela of what it calls "authoritarian aid". The study, "Undermining Democracy", is the first attempt to estimate the global scale of such operations.

China's assistance programme is the most active. In 2007 its leaders said they would offer African countries $20 billion in new financing (they did not say on what terms or over what period). Hu Jintao, the president, repeated a promise to boost aid and cancel debts during a trip to Africa this February. The World Bank says China already gives Africa $2 billion a year (more than the bank itself does). China does not publish aid figures and a study in 2007 for the Centre for Global Development, a think tank in Washington, DC, put the figure lower, at $1.5 billion-$2 billion a year (with a third to a half for Africa). But all estimates agree that aid has been rising relentlessly (see chart) and that China, once a recipient, is now in the middle rank of donors, on a par with Australia or Spain, though with more commercial lending.

Over the past ten years, Venezuela's aid has been comparable to China's, though it is now falling behind. Gustavo Coronel, a critic of President Hugo Chávez, says Mr Chávez has made $43 billion worth of foreign "commitments" since 1999. Roughly $17 billion could be described as aid, including cheap oil to Cuba and cash transfers to Bolivia. The report estimates that Venezuela's cheap-oil programme alone is worth $1.7 billion a year, though its most flamboyant feature—cheap heating oil for poor Americans—was recently scrapped.



Russian and Iranian aid is more impenetrable than China's but flashes of information light up the murk. Iran offered $1 billion to Lebanon's Shias to help them rebuild their ruined houses after the 2006 Israeli war. This year, Russia offered Kyrgyzstan $2 billion, a gesture made, by amazing coincidence, just after Kyrgyzstan had thrown out American forces. Russia has long used energy prices and debt forgiveness to cajole or punish neighbours.

If you include another generous undemocratic donor, Saudi Arabia—whose aid, $2 billion in 2007, fluctuates as much as the oil price (see chart)—then total "authoritarian aid" comes to $10 billion a year and possibly more. That is a substantial, though not a game-changing sum. It is almost 10% of total aid from rich countries, and about what Britain or Japan gives.

But its significance lies not just in its total value. Autocracies offer an alternative to western aid in several ways. In the past decade rich countries have tried to improve a dismal record of development spending by linking aid closely to the priorities of recipients (rather than financing a big project which the country does not need) and by demanding good governance. China and the rest do not.



Much of their aid is overtly political. Iran's offer of free electricity to Shia parts of Iraq is one example, Venezuela's bankrolling of Cuba another. Most is steered towards a few friendly regimes, or (in China's case) places with natural resources. China has pledged $600m to Cambodia, more than ten times as much as America. It has given Myanmar $400m in the past five years; American aid to the country is worth about $12m a year.

Naturally, help from harsh regimes is rarely encumbered with pesky demands for good governance. This makes it welcome to corrupt officials and even to those merely sick of being lectured by Westerners. Alas, it can encourage bad governance. China, the report says, is training 1,000 Central Asian policemen and judicial officials "most of whom could be classified as working in anti-democratic enterprises". The report concludes that authoritarian regimes are using aid to boost their soft power. If so, the spread of authoritarian aid is a challenge to more than just Western ideas of the right sort of giving.

Monitor

Third time lucky

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Industrial biotech: A "third wave" of biotechnology is arriving. Will it be able to avoid a poor reception from the general public this time around?

Illustration by Belle Mellor



FOR a long time the public has perceived biotechnology to mean dangerous meddling with the genes in food crops. But biotechnology is of course about much more than transgenic food: it also encompasses the use of microbes to make pharmaceuticals, for example. The many benefits of the first wave of biotech products, in medicine, have unfortunately been overshadowed by the supposed risks of biotech's second wave, in agriculture. Might its third wave—so-called industrial biotech, also known as "white biotech" or "green chemistry"—resolve biotech's image problem?

As with other forms of biotechnology, industrial biotech involves engineering biological molecules and microbes with desirable new properties. What is different is how they are then used: to replace chemical processes with biological ones. Whether this is to produce chemicals for other processes or to create products such as biopolymers with new properties, there is huge scope to harness biology to accomplish what previously needed big, dirty chemical factories, but in cleaner and greener ways.

Sales of industrial-biotechnology products were about $140 billion in 2007, and 6% of all chemicals sales were generated with the help of biotechnology, says Jens Riese of McKinsey, a consulting firm. Steen Riisgaard, chief executive of Novozymes, a biotechnology company, says he imagines a future in which bio-refineries are dotted around the countryside producing fuels and other chemicals from biomass such as agricultural waste.

One company which has been working in industrial biotechnology for years is DSM, based in Heerlen in the Netherlands. In the 1990s it started making enzymes for cheese and omega-6 fatty acids for infant formulas, and went on to develop a biological process to produce cephalosporin, an antibiotic, in a much cleaner way than the chemical processes used to make the drug. Its most recent effort has been to find a biological way to produce a chemical called succinic acid ($C_4H_6O_4$), which is used to make a wide range of products including spandex, biopolymers for agriculture, de-icing salts, esters, resins and acidity regulators in foods.

The usual chemical process involves making succinic acid from crude oil or natural gas. DSM's biological

approach is based on fermentation using enzymes and genetically engineered microbes. After a successful pilot-production phase, the next step is a demonstration factory in Lestrem, France, which will be running by the end of the year. If that goes well, a much bigger commercial operation will follow. The company says that as well as making succinic acid from biologically derived starch, rather than fossil fuels, its process also uses 40% less energy and produces fewer carbon-dioxide emissions.

Novozymes, as its name suggests, has focused its attention on supplying optimised enzymes—biological molecules that help make reactions happen faster, or at lower temperatures. This sounds trivial but it can make the difference between a commercial and a non-commercial process. The company says it has 47% of the market for industrial enzymes, which are used in areas such as detergents, brewing, baking or to produce animal feeds.

Enzymes are the first tool of choice in white biotechnology if the chemical conversion process is a fairly simple one. But if a more complicated series of reactions is required, or the enzyme in the process is used up during conversion and needs to be regenerated, it is time to reach for a microbe. Microbes can accomplish hundreds of chemical tasks at the same time and are able to recreate the enzymes they need. Novozymes is working on a biological process to make acrylic acid ($C_3H_4O_2$) from starch or biomass rather than fossil fuels. One stage uses optimised enzymes, and another is carried out by engineered microbes.

Creating a suitable microbe involves starting off with one that does part of the job in question, and then convincing the microbe to specialise in that activity. (DSM found its microbe, a yeast, living in elephant dung, where it broke down cellulose in starch; Novozymes started out with a bacterium from its large library of microbes.) The next stage is to eliminate the things the microbe does that are not related to the task in hand by inactivating non-essential genes. The modified microbes are then produced in large numbers and those that are best at the job are selected. The result is a bug that is specially adapted for a particular task.

Novozymes says it is close to completing its acrylic-acid process. Around 40% of acrylic acid produced is used to make super-absorbent material like that found in nappies (diapers); most of the rest goes into paints and coatings. Novozymes says its process will be competitive with chemical methods at an oil price of $60 a barrel or higher. Given the large size of the acrylic-acid market and its steady growth (4% a year), Novozymes is confident that its process will grab a decent share.

Proponents of industrial biotechnology are optimistic that they can avoid the pitfalls that hindered the adoption of biotech crops, which have been criticised by their opponents as unnatural “Frankenfoods” that extend corporate control of agriculture. For one thing, unlike transgenic tomatoes, say, industrial-biotech products are not sold directly to consumers. And instead of displacing “natural” products with bioengineered alternatives, as in agriculture, industrial biotechnology generally displaces fossil fuels and their associated chemical processes with greener biological alternatives. Surely that should make it easier to convince people of its benefits, and hence to rehabilitate the notion of biotechnology more widely?

One problem is that even though the raw materials used in industrial biotechnology may not be derived from fossil fuels, they are still capable of stirring up some difficult ethical questions. In particular, using food crops like maize as raw materials to make biofuel is already hugely controversial because of its impact on food prices. And even growing non-food crops for industrial use is problematic, because it can reduce the land available for food production.

The use of agricultural waste is less controversial. Mr Riisgaard reckons that converting agricultural waste into other chemicals (including fuels) using industrial biotechnology could replace 20-25% of global oil consumption. And there is plenty of waste about. He also suggests that raw materials could be grown on marginal land which is unsuitable for food production. That is true, but it could have knock-on effects on biodiversity. Perhaps the most promising approach for advocates of biotechnology’s third wave is to emphasise the potential for a new, greener chemicals industry to create jobs in remote rural areas.

Monitor

Very handy

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Robotics: Mechanical hand seeks dangerous, dirty and dull jobs. Qualified to handle eggs

THE arm of a typical industrial robot is a crude-looking but functional implement designed for a single job, such as placing tiny components onto a circuit board or painting a car. Some robots have pincer-like claws to pick things up. But none comes close to the complex abilities of the human hand. Or, at least, none did until the Shadow Robot Company, based in London, began working on the problem.

Shadow Robot has developed a robotic hand that closely mimics the human version. It has already sold several of them to various universities and to NASA, America's space agency. And it has taken an order from Britain's Ministry of Defence, which wants to try the hand out on the arm of a bomb-disposal robot.

Shadow Robot's hand is about the same size as a man's. It has four fingers and a thumb made from various metals and plastics, and even has polycarbonate fingernails to help it prise things apart. The joints in its fingers, thumb and wrist provide 24 degrees of freedom (a degree of freedom is the ability of one part of a system to move independently of the others in a particular way). All this enables it to copy the movement of a person's hand very closely. The robot hand mimics the movements of a human operator who wears a special "virtual reality" glove equipped with sensors that can determine the positions of the fingers inside it.

And the robot hand mimics not just the movement, but also the means of achieving it. The hand has a combination of artificial muscles and tendons. Each "air muscle" in the forearm behind the hand consists of a rubber tube covered in a rigid plastic mesh. Inflating the tube strains the mesh, providing a powerful pulling force. By using two air muscles to pull a joint in different directions, the robot hand is capable of strong and precise actions. The 40 muscles are attached to fine cables in sheaths, much like the brake cables on a bicycle, and these pass through the robotic wrist to operate the joints.

The Shadow Robot Company



The tactile sensors which take the place of nerve endings at the fingertips are even more advanced. They are made from a material that conducts electricity only when it is squeezed. The sensors rely on quantum tunnelling, in which electrons take journeys that would not be allowed by the laws of classical physics, as long as the distances involved are tiny.

Minuscule changes in the squeezing of the sensor trigger far larger changes in the flow of electrons, which makes the sensor extremely sensitive. The signals this generates can then be fed back as resistance in the operator's glove, and also limit the maximum pressure the robot hand can exert. The technology required for this was developed by another small British firm, Peratech, which is based in Richmond, North Yorkshire.

The latest version of the hand can pick up and handle delicate objects such as fruit and eggs. The company has decided against making it even stronger, says Rich Walker, Shadow Robot's technical director, because that might be dangerous. Many industrial robots have to be contained behind strong fences because they can injure people who get in their way.

The next stage of development, says Mr Walker, will be to add some level of intelligence. The company is involved in a European Union programme to develop technology, such as machine vision, to make robots cleverer. This would enable the hand, for example, to recognise an object like an egg and know how to pick it up without breaking it. Unless, of course, it was clever enough to know that it was making an omelette.

Monitor

Red tape in orbit

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Space: A small company has won an important legal challenge to America's space-technology export-control regime

FOR many years people in America's space industry have complained that the rules governing the export of technology are too strict. Understandably, the government does not want militarily useful stuff to fall into the hands of its foes. But the result is a system that is too strict in its definition of "militarily useful" and which favours lumbering dinosaurs such as Lockheed Martin and Boeing, which survive on big government contracts, rather than small and nimble "furry mammals" that need every customer they can get, domestic or foreign.

In December 2007 one of those mammals, a company called Bigelow Aerospace, filed the first legal challenge to America's rules for exporting space technology. It disputed the government's claim that foreign passengers travelling on a spaceship or space station were involved in a transfer of technology. The outcome suggests that there may be a chink in the armour of the export-control regime.

Improbable as it sounds, Bigelow Aerospace makes and launches inflatable space-station modules (pictured) and hopes, one day, to build a commercial space-station. Under the existing rules, any non-American passengers on its space stations would have to comply with onerous export-control rules. These take months to satisfy and could plausibly even require government monitors to be present whenever the foreigner was near American space technology. Even training on the ground in a mock-up module is deemed a transfer of technology and therefore subject to controls.

Yet taking a passenger flight does not mean you can then build an aeroplane, observes Mike Gold, head of Bigelow's office in Washington, DC. His line of argument has, it seems, been accepted. Mr Gold says that his company received a legal ruling in February and that it has spent the past few months digesting it. He says Bigelow has got "everything we could want", though the ruling still precludes passengers from what he describes as the "bad-boy list of export control"—nationals from Sudan, Iran, North Korea and China will not be allowed to fly or train on suborbital passenger flights, or visit Bigelow's space station.

AP

Bigelow prepares for lift-off

Other private space companies have welcomed the ruling. Marc Holzapfel, legal counsel for Virgin Galactic, describes it as a "major development" because it frees the industry from having to go through the "complicated, expensive and dilatory export-approval process". Tim Hughes, chief counsel of SpaceX, another private firm, says the approval is exciting, because it seems to represent a "common-sense approach" and bodes well for similar requests made by companies, such as his own, that hope to start ferrying foreign astronauts on missions to the International Space Station.

The ruling also has implications for the entire export-control regime, known as the International Traffic in Arms Regulations (ITAR). Robert Dickman, executive director of the American Institute of Aeronautics and Astronautics, says the decision appears to convey a new willingness to "move away from the very restrictive approach that has been in place for almost a decade". His organisation recently hosted a forum involving the private spaceflight industry and senior government officials to discuss the regulations.

During the American presidential campaign, Barack Obama said that, if elected, he would review ITAR, and in particular the provisions relating to space hardware. George Nield, associate administrator for

commercial space transportation within the Federal Aviation Authority, says although he has not seen the new ruling, it was good news that the government “may now be willing to revise some of its export-control restrictions to enable American firms to be more competitive in their efforts to sell aerospace products and services globally”.

Monitor

Running on air

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Transport: Powering hybrid cars with compressed air rather than electric motors could be a cheaper way to increase fuel efficiency

BEING green can be expensive, as any driver of a Toyota Prius can tell you. The car is a hybrid, combining a petrol engine with an electric motor that powers it at low speeds in the city and provides bursts of acceleration when needed. It is the most fuel-efficient car sold in America, but it costs upwards of $22,000, a price that can wipe out the savings on fuel. One reason for the high price is that the car contains expensive batteries. Another is that the transmission system had to be completely redesigned. But there may be a cheaper and simpler way to make a hybrid, using air power instead of electricity.

Using compressed air to power a car has one obvious disadvantage: compressed air has a low energy-density, so not very much energy can be stored. However, in urban driving this may not matter. One of the most important roles of the batteries in a hybrid is to store energy recovered when the car brakes. The idea with a pneumatic hybrid is to store this energy as compressed air. Such a vehicle would run on petrol but would use its reservoir of compressed air to boost the engine's power when needed. This would not demand a serious redesign because every car already has a makeshift air compressor in the form of the engine itself. Building a pneumatic-hybrid car would thus be relatively cheap.

When the driver of a pneumatic-hybrid car applied the brakes, the fuel supply to the engine would be shut off and the pistons that normally propel the vehicle would help slow it, pumping pressurised air into a tank as they did so. This compressed air could then be used to force more air into the combustion chamber during acceleration. This allows more fuel to be burned (since there is more oxygen available to burn it with) and thus provides a burst of extra power. According to Lino Guzzella of the Swiss Federal Institute of Technology in Zurich, who has built a prototype pneumatic-hybrid engine, this sort of approach could reduce fuel consumption by 32% compared with a normal engine, and would offer 80% of the fuel savings of an electric-hybrid vehicle at a lower price.

It is well known that today's engines are too large, being sized for acceleration rather than everyday driving, says Dr Guzzella. So the trend is towards smaller engines augmented with turbochargers. (A turbocharger uses exhaust gases to drive a compressor that forces more air into the engine.) The trouble is that turbochargers can take several seconds to provide the extra oomph. But a pneumatic-hybrid engine can deliver it immediately, thus enabling a smaller engine to deliver the same kind of driving performance as a larger engine, but with considerably better fuel consumption.

Pneumatic-hybrid cars are best suited to city driving, according to John Heywood of the Massachusetts Institute of Technology. The compressed-air tank needs to be kept topped up by regular braking, and drivers brake less often on motorways. But stopping and starting is not a problem for one type of pneumatic hybrid. Hua Zhao of Brunel University in London has been developing a variation of the technology for lorries and buses. Some commercial vehicles are already designed to use their engines as compressors to slow them down and prevent the brakes from overheating when going down long hills. And many such vehicles use air-driven starter motors. Dr Zhao reckons he can make a pneumatic-hybrid engine using these existing components.

But instead of injecting compressed air into the combustion chamber, Dr Zhao's design would use the compressed-air tank to replace the electrically powered compressors that feed air-driven starter motors. Simulations suggest this would significantly reduce fuel consumption, says Dr Zhao, who is now looking for a commercial partner to build a test vehicle.

Monitor

Spies in the sky

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Military technology: Blimps equipped with remote-sensing electronics are cheaper than drone aircraft, and have many other advantages

Illustration by Belle Mellor



SPYING is a sophisticated and expensive business—and gathering military intelligence using unmanned aircraft can be prohibitively so. Predator and Global Hawk, two types of American drone frequently flown in Afghanistan and Iraq, cost around $5,000 and $26,500 an hour respectively to operate. The aircraft themselves cost between $4.5m and $35m each, and the remote-sensing equipment they carry can more than double the price. Which is why less elegant but far cheaper balloons are now being used instead.

Such blimps can keep surveillance and ordnance-guiding equipment aloft for a few hundred dollars an hour. They cost hundreds of thousands, not millions, of dollars. And they can stay in the air for more than a week, whereas most drones fly for no more than 30 hours at a time. They are also easy to deploy, because no airfield is needed. A blimp can be stored in the back of a jeep, driven to a suitable location, launched in a couple of hours and winched down again even faster.

Unlike other aircraft, blimps do not need to form a precise aerodynamic shape. This means they can lift improbable objects into the sky, such as dangling radar equipment. At altitudes of just a few hundred metres, a blimp carrying 20kg of remote-sensing electronics (including radar and thermal-imaging cameras) can identify, track and provide images of combatants dozens of kilometres away, by day or night. It can also help commanders aim the lasers that guide their missiles.

Blimps often operate beyond the range of machine-guns and rocket-propelled grenades. Even if they are hit, though, they do not explode because the helium gas that keeps them airborne is not flammable. (Engineers abandoned the use of hydrogen in 1937 after the *Hindenburg*, a German airship, was consumed by flames in less than a minute.) Moreover, they usually stay aloft even when punctured: the pressure of the helium inside a blimp is about the same as that of the air outside, so the gas does not rush out. Indeed, towards the end of 2004, when a blimp broke its tether north of Baghdad and started to drift towards Iran, the American air force had trouble shooting it down.

At least 20 countries use blimps—both global military powers, such as America, Britain and France, and smaller regional ones, including Ireland, Pakistan, Poland and the United Arab Emirates. Many are employed in Iraq. In November 2008 Aerostar International of Sioux Falls, South Dakota, began filling a $1.8m order for 36 blimps to be deployed by the American armed forces in Iraq. But Afghanistan may prove a bigger market. That is because it is difficult to pick up satellite signals in the valleys of that mountainous country. As a result blimps, adjusted to hover at appropriate heights, are often used to relay data to and from satellites.

As politicians around the world seek to cut public spending, the attractions of blimps are growing. In January America's defence secretary, Robert Gates, told the Senate's armed-services committee that the

Department of Defence would pursue greater quantities of “75% solutions” that could be realised in weeks or months instead of “99% exquisite systems” that take more than a decade to develop. Barry Watts, an analyst at the Centre for Strategic and Budgetary Assessments, a think-tank in Washington, DC, says America’s air force has been criticised for not providing enough aerial data to “insatiable” ground forces. Blimps, Mr Watts reckons, will help them sate that appetite.

Monitor

Dot Mars

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Computing: A modified version of the internet's communications protocol, devised for interplanetary use, is being tested by spacecraft

Illustration by Belle Mellor



CYBERSPACE is noisy, chatty and well-connected. Space, by contrast, is not. Communication between Earth and spacecraft is clunky and reminiscent of the days when switchboard operators had to plug in telephone lines by hand to connect the people at either end. But that is now about to change. America's space agency, NASA, has been researching what it calls the delay- (or disruption-) tolerant network protocol, or DTN. The idea is to introduce to space the automated protocols that enable seamless communication on the terrestrial internet.

Communicating in space is quite different from the constant flow of information on Earth, where a buzz of greetings, acknowledgments and farewells flits between computers as they locate each other, exchange data and then disconnect. Space communication happens in distinct jumps, and requires a "store and forward" system that can retain information at each step in the process. For example, if a rover on Mars needs to send data to Earth, it would first need to store the data until it was within range of an orbiting satellite. After receiving the data, that satellite would hold the information until it could be sent on the next hop towards Earth.

Sending data from Earth to Mars and back can take anywhere between three-and-a-half and 20 minutes, depending on the positions of the planets and whether they are facing each other in their respective rotations. As a result, scientists have to plan when to send data. The DTN is an attempt to automate that process. "The idea would be that you could send data from France to Mars in a seamless way," says Adrian Hooke, a NASA scientist based in Washington, DC, who has been developing the protocol over the past decade with Vint Cerf of Google, a founding father of the internet, and others.

In November 2008 NASA conducted the first test of DTN. It installed software on EPOXI, a NASA probe orbiting the sun roughly 32m kilometres (20m miles) from Earth, and used it to transfer data between the probe and the planet. NASA is now poised to install newer versions of this software on the same probe and on the International Space Station. The software will be sent to the EPOXI computers using powerful antennas at three bases in California, Canberra and Madrid. Uploading this one-megabyte software update takes around an hour, so its speed is comparable to that of a 1990s modem connection. If all goes well Dr Cerf says that by September there should be three nodes on the interplanetary network—including Earth.

Researchers at Ohio University are already distributing a version of what is known as the DTN protocol stack, so that computer programmers can write programs that will use this new protocol. It will require new e-mail clients, web browsers and file-transfer programs that could be used on the International Space Station or other future manned space missions, and which can interact with other nodes on the interplanetary network and the terrestrial internet. It will also require changes to the internet's domain-naming system, so that scientists can simply send e-mail messages to rover@nasa.gov.mars.

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Monitor

On the pulse

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Medical technology: A new, low-cost design for an artificial heart takes its inspiration from an unusual source—the cockroach

EVOLUTION has favoured cockroaches above human beings, at least when it comes to the functioning of the heart. A cockroach's heart will continue to beat even when one of its chambers has failed; in similar circumstances, a man will die. Now a team led by Sujoy Guha of the Indian Institute of Technology, Kharagpur, has created an artificial human heart based on a cockroach's, which they believe will be unusually robust and affordable.

A cockroach's heart is a tube that runs the length of its body. It has 13 chambers, linked like a string of sausages. As each chamber contracts, the blood within is pumped to a higher pressure. Each successive chamber increases the pressure. A human heart, by contrast, has four chambers. Two of these pump blood to the lungs, where it picks up oxygen, then the other two pump this oxygenated blood throughout the body. One of these four chambers—the left ventricle—contracts most strongly to pressurise the blood.

The artificial hearts developed so far have mostly mimicked human ones. The first devices, developed in the 1950s and 1960s, were large machines placed on trolleys next to the patient and attached by tubes. Modern artificial hearts are less cumbersome, but they are still rather unwieldy because they use compressed air to pump the blood and are powered by heavy batteries. They are used temporarily, usually for a few days or weeks, until a real heart is available for transplant.

Instead of trying to mimic the action of the left ventricle, Dr Guha's design uses a multi-step approach borrowed from the cockroach. His device, made from plastic and titanium, is the same size as a human heart but with five chambers arranged like the layers of an onion. Each chamber acts in succession to increase the pressure of the blood. The contraction of each chamber is controlled by a motor driven by bulky batteries. The artificial heart is being tested on goats, with human trials scheduled for next year. If these are successful, the device could be on the market in three to five years.

The multi-step approach makes this artificial heart much cheaper to build than those that use compressed air to pump the blood. Dr Guha says it would cost $2,000-2,500. Peter Weissberg, medical director of the British Heart Foundation, says one reason clinical trials of artificial hearts are so difficult to conduct is that the devices are so expensive, typically costing over $50,000. Dr Guha's cockroach-inspired artificial heart promises to provide an affordable option for cardiac care in emerging economies such as India, where heart disease is on the rise.

Monitor

Zap!

Jun 4th 2009
From The Economist print edition

Medical technology: Researchers are devising laser-defence systems to shoot down mosquitoes and prevent the spread of malaria. No, really

Illustration by Belle Mellor



TOWARDS the end of the cold war Ronald Reagan announced plans to use powerful lasers to shoot down any incoming intercontinental ballistic missiles that the Soviet Union aimed at America. The lasers were real but the plan was fanciful. Scientists now propose a more modest system, aimed at insects rather than nuclear warheads. They think lasers could be used to zap the mosquitoes that carry malaria, a disease which kills more than a million people each year, most of them children, and debilitates hundreds of millions more.

Researchers at Intellectual Ventures, an innovations company established by former Microsoft executives in Bellevue, Washington, have developed what they call a photonic mosquito fence. It has a series of posts, each of which is equipped with a cheap camera and a light bulb (which will be swapped for a light-emitting diode in future versions). The cameras are connected to a central computer. When a camera detects movement, the computer analyses it to see whether it is consistent with the behaviour of a mosquito. If it is, then the computer trains a laser onto the insect and blasts it into oblivion.

Jordin Kare, an astrophysicist and a former scientist on the missile-defence programme, leads the effort. He says it is possible to detect different species of mosquito because their wings beat with a distinctive frequency. He is aiming for *Anopheles gambiae*, the species most effective at spreading plasmodium, the parasite that causes malaria, when it bites people to feed on their blood.

Dr Kare imagines that the mosquito fence will be set up around a hospital or a village in a malarial area. His experiments with prototypes have shown that posts spaced 100 metres apart work best. The lasers would target only mosquitoes, although Dr Kare says some work still needs to be done to ensure that the laser is safe for people and animals. Although he will not give an exact figure, Dr Kare says he built his prototype from parts bought at surplus stores and on eBay, and has calculated that the cost will be comparable to that of supplying all the inhabitants of a medium-sized village with bed nets.

Another, somewhat simpler, approach is being developed by Szabolcs Marka, an astrophysicist, and his colleagues at Columbia University in New York. Dr Marka has created a curtain of invisible light that mosquitoes cannot penetrate. He uses a common diode laser, a simple lens and a power supply to generate an infra-red barrier that can cover a door or window. Mosquitoes are very sensitive to heat and light (indeed, their sensitivity to infra-red radiation helps them sense the presence of food, in the form of people). The idea is that when a mosquito encounters the infra-red curtain, its senses are overwhelmed and it flies away. Tests have shown that the curtain kills some mosquitoes that fly into it.

Even if a mosquito somehow managed to penetrate such a barrier, a second light curtain set up around a bed, for example, would provide further protection. Dr Marka envisages two or three light curtains in a home: one at the door, one around a sleeping person and one surrounding the area in which mosquitoes typically hide (under the thatched roof of a hut, for example). Dr Marka calculates that if there is a 6% chance that a mosquito will penetrate a light curtain, and a hut contains four curtains, then only one in 100,000 mosquitoes will be able to spread malaria. Dr Marka, whose research is funded by the Gates

Foundation, says that a prototype of his machine costs a little over $100.



Monitor

Taken your medicine?

Jun 4th 2009
From The Economist print edition

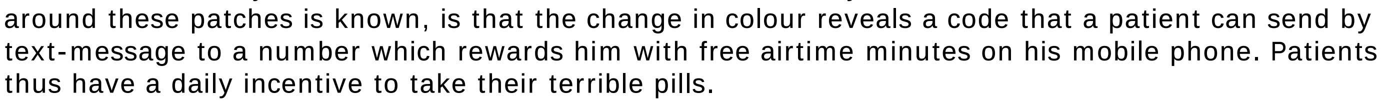
Health care: Mobile phones provide a cheap and simple way to ensure that patients have popped their pills

MIT



TAKING your medicine even for a week is a drag. Taking it every day for six months is a real nuisance. Yet that is what is asked of those being treated for tuberculosis (TB). They need to pop their pills for half a year if they are to eliminate the bacteria that cause the infection and combat the emergence of antibiotic-resistant strains. But the actual symptoms of infection tend to go away after just two months of taking the medicine, so the incentive to carry on is negligible. Worse, the drugs themselves produce unpleasant symptoms, including nausea, diarrhoea, headaches and insomnia. Indeed, one common anti-TB drug, rifampicin, also has the unnerving side effect of turning people's tears, sweat and urine a shade of reddish orange.

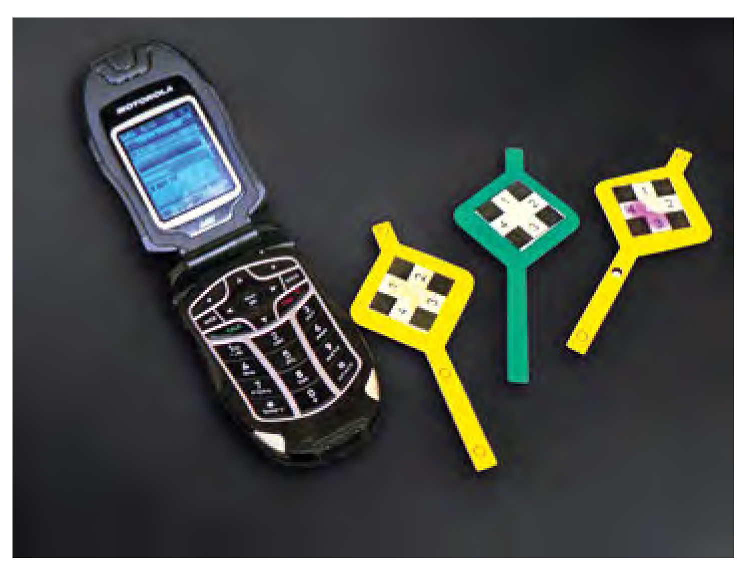
Every cloud, however, has a silver lining, for it was this strange (if harmless) side effect that gave a team of researchers at the Massachusetts Institute of Technology (MIT) their crucial idea: stamp-sized patches, much like litmus paper, that change colour when exposed to the urine of people with traces of medicine in their systems. The crucial trick of XoutTB, as the system built around these patches is known, is that the change in colour reveals a code that a patient can send by text-message to a number which rewards him with free airtime minutes on his mobile phone. Patients thus have a daily incentive to take their terrible pills.



The XoutTB project began in the spring of 2007, with the launch of the Yunus Challenge, a now-annual contest at MIT to promote development in poor countries. Muhammad Yunus, after whom the challenge is named, is a Nobel prize-winning pioneer of microfinance—the idea that loans too small for traditional banks to handle are crucial in enabling businesses to flourish in the poorer parts of the world.

The winner of that year's challenge was Jose Gomez-Marquez, a medical engineer at MIT. His original idea, inspired by Dr Yunus's work, was to involve local banks (in this case in Nicaragua) in a scheme that would give TB patients micro-loans in exchange for evidence that they had been taking their medication. That plan fell by the wayside because the banks did not want to get involved. But phone companies were willing to give it a try, and brought with them the bonus of an established infrastructure for distributing the rewards. The resulting trial, which involved 30 people with tuberculosis, was a success, and a second is about to be carried out in Pakistan, where a batch of 400 XoutTB patches is arriving this month.

MIT



Keep taking the tablets

Conditions in Karachi, the Pakistani city in which the trial is being conducted, could politely be described as “challenging”. According to Rachel Glennerster, a member of the XoutTB team who has worked as an economist at the IMF and the British Treasury, the local medical clinics are closed about 60% of the time and doctors or nurses are often absent during the 40% when the doors are nominally open. Such absences—and the associated lack of compliance-monitoring—are some of the problems for which XoutTB is designed to compensate.

Pakistan, though, presents a second difficulty. Aamir Khan, the director of XoutTB’s operations in the country, quickly discovered that one of the neediest groups of people there are 15- to 25-year-old women. Unfortunately, they are often under the thumbs of their parents or husbands and are not allowed mobile phones of their own. Dr Khan is therefore considering the idea of a different reward—high-energy food supplements to combat malnutrition. The system would not supply food directly, but would instead top up credit at the patient’s grocer using an automatic link.

If XoutTB does work, the team has ambitions to extend it. Other drugs can also be a nuisance to remember. The anti-retrovirals used to combat AIDS, for example, have to be taken for the rest of a patient’s life. And taking medicines for non-infectious conditions such as diabetes and high blood pressure is also a chore. Find the right “litmus test”, though, and what is now being done with TB drugs could succeed with any of these as well. Taking your medicine could, at last, become a truly rewarding experience.

Monitor

Mapping a better world

Jun 4th 2009
From The Economist print edition

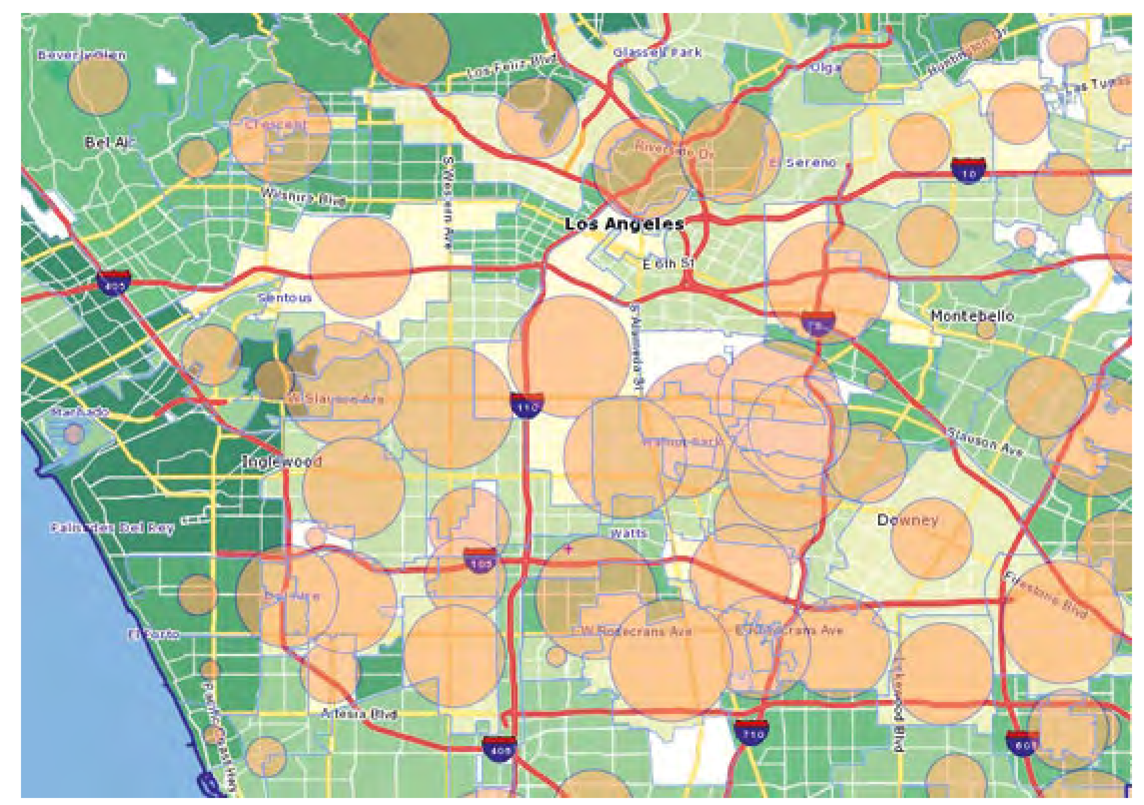
Software: Interest groups around the world are using mapping tools and internet-based information sources to campaign for change

CONVINCING people about the evils of housing segregation can be tough, says Barbara Samuels, a campaigner for fair housing at the American Civil Liberties Union (ACLU) of Maryland. “People say, ‘What’s so bad about living in an all-black neighbourhood?’ ” she explains. But using a map that displays all the vacant houses in a segregated neighbourhood, how few jobs exist there and how little public transport is available, “you can show graphically how people are segregated from opportunity,” she says. “Maps help you take complex information and portray it in a clear, intuitive manner. You can show segregation in a way that talking about it doesn’t do.”

And compiling such maps is much easier than it used to be, thanks to new mapping tools and sources of information on the internet. Ms Samuels remembers, for example, the tedium of trying to draw basic data on maps by hand in the 1990s. But in 2005 she was able to use maps that displayed 14 indicators of opportunity—created for her by a mapping-technology specialist—to help win a housing-desegregation court case.

For most people it is merely a handy tool to find a nearby pizzeria or get directions to a meeting. But mapping technology has matured into a tool for social justice. Whether it is to promote health, safety, fair politics or a cleaner environment, foundations, non-profit groups and individuals around the world are finding that maps can help them make their case far more intuitively and effectively than speeches, policy papers or press releases.

“Today you are allowed to visualise data in ways you couldn’t even understand just a few years ago,” says Jeff Vining of Gartner, a consulting firm. Along with web-based resources, coalescence around more advanced tools has also helped, such as the emergence of ESRI, based in Redlands, California, as the market leader in mapping software. And the rise of open-source projects such as MapServer, PostGIS and GRASS GIS have made sophisticated mapping available to non-profit groups with limited resources.



Areas with fewer parks (lighter rather than darker green) have higher rates of childhood obesity (larger red circles)

All this has made it much easier to create maps that explain—at a glance—something that might otherwise require pages of tables or verbiage. “A percentage or a table is still abstract for people,” says Dan Newman of MAPLight.org, a group based in Berkeley, California that charts the links between politicians and money. “With maps, you can show people how an abstract concept connects to where they live.” Wendy Brawer, founding director of GreenMap.org, a mapping site based in New York used by people in 54 countries, says maps can make a point even if they are in a foreign language. “Maps are really helpful for that ‘Aha!’ moment,” she says.

For example, “The Grim Reaper’s Road Map: An Atlas of Mortality in Britain”, published in 2008, reveals that the places with the highest numbers of smokers also have the highest rates of death from lung cancer. No surprise there. But the collection of maps from a British publisher of public-policy books also shows that cervical cancer is more likely to strike those in the north of England, and brain cancer is more prevalent in the south of Scotland. Such revelations can lead to investigations and eventual health improvements.

The Kirwan Institute for the Study of Race and Ethnicity in Columbus, Ohio, which created the maps used in Ms Samuel’s ACLU court case, has made “opportunity” maps of several American cities. The aim is to help people find neighbourhoods where jobs, health care, safety and public transport are in better supply—or to spur the creation of more such neighbourhoods. Rob Breymaier of MoveSmart.org, a non-profit group that encourages people to “move to opportunity”, recalls using Kirwan’s maps in Chicago in 2006 to help a family of eight. “They ended up finding a place in the north-west suburbs, which is a huge change from Chicago’s south side,” he says. The children ended up in better schools and stayed out of trouble, he says.

Others have used maps to expose violence. Ushahidi.com was launched by four technologists to map citizen reports of post-election violence in Kenya last year using Google Maps. “We’re building a platform that makes it easier to gather information around a crisis so that governments, or whoever is trying to hide the crisis, can’t do it anymore,” says Erik Hersman, Ushahidi’s operations director.

Sequences of maps can also be used to debunk misconceptions. Many in Los Angeles were pleased, for example, to learn that gun violence had decreased since the mid-1990s. But by developing a series of maps showing where shootings continued to happen, a local non-profit group called Healthy City was able to show that for some Los Angelenos, gun violence was as bad as ever.

MAPlight used a similar time-lapse approach to show the influence of money on congressional votes. Starting in January 2007, it tracked which states (those growing sugar-beets and sugar-cane, it turned

out) were making the most generous political donations in the run-up to a vote in July 2007 on subsidies for the sugar industry. But once the vote was tallied and the subsidy granted, states that had appeared bright red with political contributions suddenly revert to tan, indicating an instant drop in donations. “We make visible and real something that is usually invisible and abstract,” says Mr Newman.

Changing the way American politics is funded is a tall order. But some map-based campaigns have already produced clear results. For example, the Food Trust, a campaign group based in Philadelphia, used maps as part of its fight to reduce diet-related disease and malnutrition in urban parts of America. “I remember the first supermarket-commission meeting,” says Jennifer Kozlowski, special assistant for the environment to David Paterson, the governor of New York. “Some of the maps in the report mapped obesity-related deaths and access to produce markets. It was as clear as day that something needed to be done.” In January Mr Paterson announced the Healthy Food/Healthy Communities Initiative, including $10m in grants and loans for supermarket projects in under-served communities.

Such examples underscore why campaigners are rushing to make the most of map technology. “We don’t just want to be about mapping,” says John Kim of Healthy City. “Maps don’t change the world—but people who use maps do.”

A stitch in time

Jun 4th 2009
From The Economist print edition

Nanotechnology: A new way to prevent flaws in composite materials

BECAUSE they are both strong and lightweight, composite materials made from carbon fibres are the darlings of engineers in the aerospace industry. Unfortunately, such materials deteriorate over time. Wind and rain attack the glue that sticks the layers of carbon fibres together. As a consequence, the layers peel away from one another. Many people have tried to solve this problem, without success. A new method aims to do so by stitching the carbon-fibre layers together.

Brian Wardle of the Massachusetts Institute of Technology and his colleagues noted that past attempts to reinforce composite materials, by sewing the layers together as well as gluing them, often ended up damaging the fibres because the metal needles and threads were so thick. Although the sewing did help the composite stay together, its strength was diminished. Dr Wardle reasoned that if a needle and thread could be made thin enough, such damage could be eliminated.

Carbon nanotubes, which are just billionths of a metre across, seemed the perfect needle. Because these tubes are a thousandth of the diameter of carbon fibres, they can slip into the microscopic spaces between them.

Finding a thread for the nanoscopic needle to pull required more thinking. Dr Wardle and his colleagues started exploring the interactions between carbon nanotubes and polymer glues. They discovered that when the nanotubes were just touching the glue, they sucked it up by capillary action, the same physical mechanism by which plants draw water from the soil. Because the nanotubes drew glue into themselves, they could be used as both needles and threads.

The team placed polymer glue between two carbon-fibre layers and heated it. They then placed tens of trillions of nanotubes on each of the carbon-fibre layers such that the tubes could just touch the glue. When the glue was hot and runny, the carbon nanotubes sucked it up through the carbon-fibre layers. The layers were then pressed together and the glue was allowed to cool, before the material was tested for strength and toughness.

Dr Wardle and his colleagues found that the technique would make aerospace parts ten times stronger than at present. The nanotubes themselves are cheap and, as a happy coincidence, having them run perpendicular to the carbon-fibre layers makes the composite over a million times more electrically conductive than it otherwise would be. That means aeroplanes built with such materials would be able to disperse lightning strikes rapidly, avoiding electrical damage during storms as well as being better protected against whatever wind and rain can throw at them.

Economist.com SCIENCE TECHNOLOGY QUARTERLY

Rational consumer

With a little help...

Jun 4th 2009
From The Economist print edition

Domestic robots: Machines that look after your home are getting cleverer, but they still need care and attention if they are to perform as intended

AFP



ROSIE, the robotic maid in “The Jetsons”, was quite a character, but she did a reasonably good job of cooking and cleaning. Today’s domestic robots, alas, do not have such dexterity. If you can lay your hands on an experimental Honda ASIMO or Toyota Partner Robot, then it could greet guests, serve drinks and even play a musical instrument to entertain them. The household robots you can buy are, by contrast, still made for only one job. But with advances in electronics they are at least getting better at the things they can do.

Floor-cleaning machines capable of responding to their environment were among the first commercially available domestic products worthy of being called robots. The best known is the Roomba, made by iRobot, an American company which has sold more than 3m of the frisbee-sized vacuuming robots. The latest model, the fifth incarnation of the Roomba, has more sensors and cleverer software than its predecessors. Press the “Clean” button and the robot glides out of its docking station and sets off across the floor.

Domestic robots are supposed to free up time so that you can do other things, but watching how the Roomba deals with obstacles is strangely compelling. It is capable of sensing its surroundings, and does not simply try to adhere to a pre-planned route, so it is not upset if furniture is moved, or if it is picked up and taken to clean another room. Its infra-red sensors enable it to slow down before nudging up to an obstacle—such as a dozy cat—changing direction and setting off again.

It steadily works its way around the room, figuring out how to get out from under the television stand or untangle itself from a stray Game Boy recharging lead. Watch it for long enough, and you can sometimes predict its next move. The machine has a “dirt sensor” and flashes a blue light when it finds things to clean up. Only when it detects no more dirt does it stop going over the same area and, eventually, conclude that the whole room is clean. It then trundles back to dock at its recharging station. On the whole it does a good job.

So the first observation of life with a domestic robot is that you will keep watching it before you trust it completely. Perhaps that is not surprising: after all, when automatic washing-machines first appeared people used to draw up a chair and sit and watch them complete their wash, rinse and spin cycles. Now they just load them, switch them on and leave them to it.

The second observation is that certain accommodations must be made to get the best out of a domestic robot, something that seems unlikely to change any time soon. The Roomba can be set up to clean at particular times, and to clean more than one room (small infra-red “lighthouses” can be positioned in doorways, creating an invisible barrier between one room and the next that is only removed when the first room has been cleaned). A “drop off” sensor underneath the robot prevents it from falling down stairs. All very clever, but what the Roomba will not do is pick up toys, shoes and other items left lying around. Rooms cared for by robots must be kept tidy. To start with, children will happily put things away in order to watch the robot set off, but unfortunately the novelty soon wears off.

Similar allowances must be made for other domestic robots. Sweden’s Husqvarna recently launched a new version of its Automower lawnmowing robot. Before it can be used, a wire must be stapled around the perimeter of the lawn to define the area to be cut. The Automower does not collect grass, but chops

it up finely and leaves it behind as a mulch. If toys and other obstacles are not cleared from the lawn before it starts work, the robot will steer around them, leaving uncut areas. The latest version can even top up its batteries with solar power, or send its owner a text message if it gets into trouble trying to climb a mole-hill.

But there is still only a limited range of domestic robots. Machines that mop the floor, clean a swimming pool and clear muck from guttering are made by iRobot. Several surveillance robots are also on offer. The Rovio, made by WowWee of Hong Kong, is a Wi-Fi-enabled webcam, mounted on an extending arm, which rides along on a nimble set of wheels. It can be remotely operated over the internet via a laptop or mobile phone. The idea is that Rovio can patrol the home when its owner is away, either automatically or under manual control. Two-way communication allows the operator to see and talk via the machine. So you could, for instance, shout at the dog if it is sleeping on your best sofa.

Husvarna



The fantasy (top) and the reality (bottom)

Some machines are called robots even though they cannot move around. There is an ironing robot, for instance, that takes the form of an inflatable dummy: put a damp shirt on it, and it puffs up to remove the creases. Similarly, there are elaborate trouser presses that aspire to be robots. But do these devices, or pet-care machines that release food into a bowl every so often, or automatically clean litter trays, really count as robots? If so, then surely dishwashers and washing machines do, too.

Yet whatever shape or size robots come in, many will be adored. Another important observation from living with a robot is that it tends to become part of the family. People give them names, and if they have to be sent back for repair they carefully mark them to ensure they get the same machine back, says Nancy Dussault Smith of iRobot. Despite Rosie's peculiar ways, the Jetsons would not have swapped her for the world.

Economist.com SCIENCE TECHNOLOGY QUARTERLY

Energy

Building the smart grid

Jun 4th 2009
From The Economist print edition

Energy: By promoting the adoption of renewable-energy technology, a smart grid would be good for the environment—and for innovation

AP



AROUND the world billions of dollars are being invested in clean-energy technologies of one sort or another, from solar arrays and wind turbines to electric cars. But there is a problem lurking in the power grid that links them together. Green sources of power tend to be distributed and intermittent, which makes them difficult to integrate into the existing grid. And when it comes to electric cars, a study by America's Pacific Northwest National Laboratory (PNNL) found that there is already enough generating capacity to replace as much as 73% of America's conventional fleet with electric vehicles—but only if the charging of those vehicles is carefully managed. In order to accommodate the flow of energy between new sources of supply and new forms of demand, the world's electrical grids are going to have to become a lot smarter.

Even though the demands being placed on national electricity grids are changing rapidly, the grids themselves have changed very little since they were first developed more than a century ago. The first grids were built as one-way streets, consisting of power stations at one end supplying power when needed to customers at the other end. That approach worked well for many years, and helped drive the growth of industrial nations by making electricity ubiquitous, but it is now showing its age.

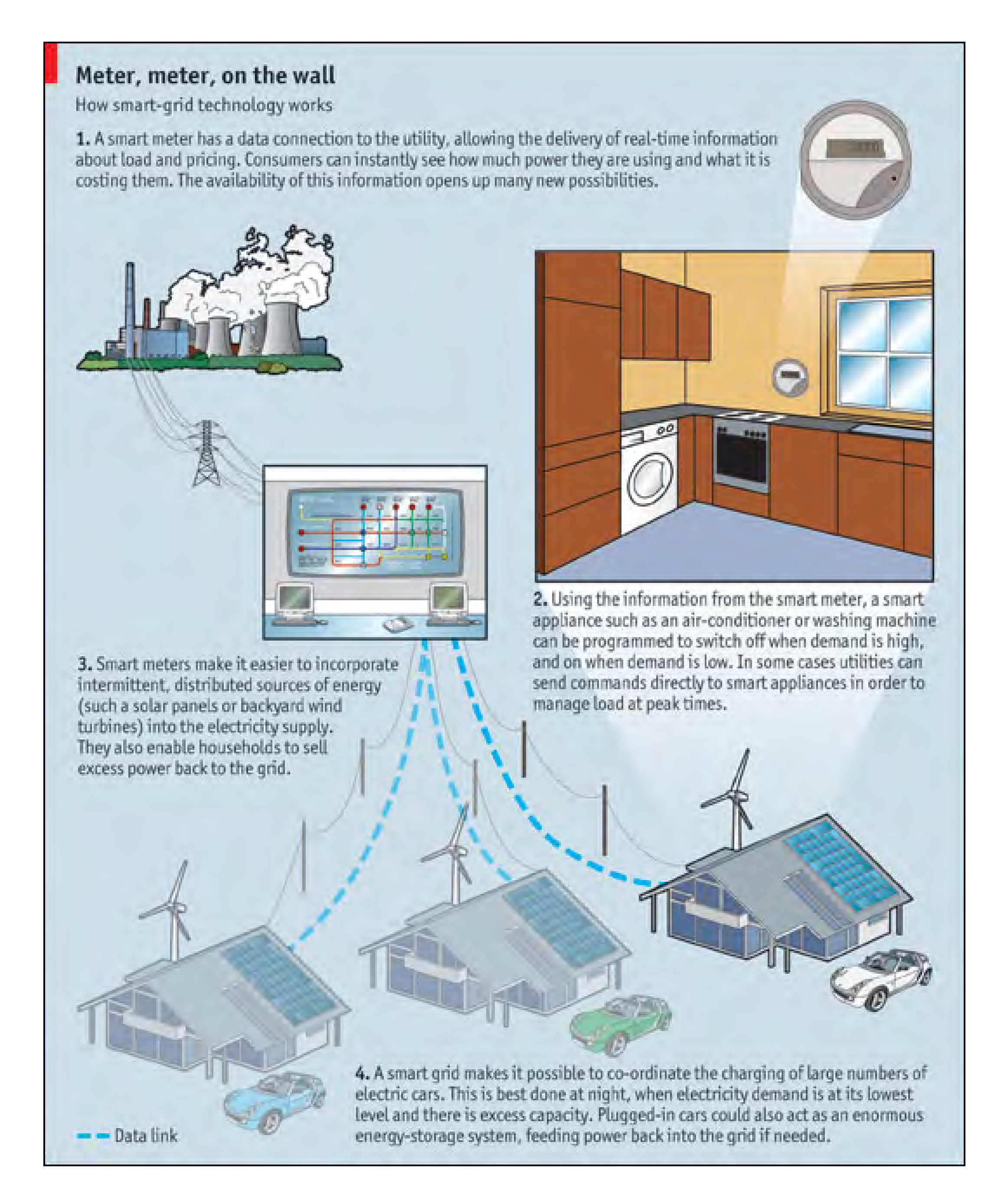
One problem is a lack of transparency on the distribution side of the system, which is particularly apparent to consumers. Most people have little idea how much electricity they are using until they are presented with a bill. Nor do most people know what proportion of their power was generated by nuclear, coal, gas or some form of renewable energy, or what emissions were produced in the process. In the event of a power cut, it is the customer who alerts the utility, which then sends out crews to track down the problem and fix it manually. "I can't think of another industry that still has that lack of visibility over its networks," says Heather Daniell of New Energy Finance, a research firm in London.

According to projections from America's Energy Information Administration, electricity generation around the world will nearly double from about 17.3 trillion kilowatt-hours (kWh) in 2005 to 33.3 trillion kWh in 2030. Poor countries will show the strongest growth in electricity generation, increasing by an average of 4% per year from 2005 to 2030, compared with 1.3% per year for their richer counterparts. In some countries, including America, the grid has not kept up with the growth in demand for power. The deregulation of America's utilities in the 1990s encouraged companies to transfer power over long distances. At the same time, regulatory uncertainty and increased competition led to reduced investment in new transmission lines. As a result, some parts of the system have become increasingly congested. Black-outs cost America an estimated $80 billion a year, according to a study by the Lawrence Berkeley National Laboratory.

Plugging in

The cure, many believe, is to apply a dose of computer power to the grid. Adding digital sensors and remote controls to the transmission and distribution system would make it smarter, greener and more efficient. Such a "smart grid" or "energy internet" would be far more responsive, interactive and transparent than today's grid. It would be able to cope with new sources of renewable power, enable the

co-ordinated charging of electric cars, provide information to consumers about their usage and allow utilities to monitor and control their networks more effectively. And all this would help reduce greenhouse-gas emissions. “We have a fundamental belief that a fully effective smart grid is going to radically change the way an energy grid operates,” says Michael Carlson, until recently a senior executive at Xcel Energy, a power company that is using the city of Boulder, Colorado, to test various smart-grid technologies.



What exactly would a smart grid look like? Many of the changes would be invisible. On the transmission and distribution side, sensors and digital relays installed on power lines will enable utilities to operate systems with greater efficiency and reliability. Today’s supervisory control and data acquisition systems, for example, typically provide data on the state of transmission lines every four seconds. Devices called synchrophasors can sample voltage and current 30 times a second or faster—giving utilities and system operators a far more accurate view of the health of the grid. A broad deployment of synchrophasors could be used as an early warning system to help halt or prevent power surges before they develop into massive blackouts, says Jeff Dagle of PNNL.

Other smart-grid technologies would be more visible to consumers. Probably most important would be the introduction of smart meters, which track electricity use in real-time and can transmit that information back to the power company. Smart meters have been used by commercial and industrial customers for decades, says Eric Miller of Trilliant, an American company that installs communications networks and software to implement smart meters. But in recent years they have become cheap enough for wider deployment.

Smart meters establish a two-way data connection between the customer and the power company, by sending information over a communications network that may include power-line, radio or cellular-network connections. Once smart meters are installed, power companies can determine the location of outages more easily, and no longer need to send staff to read meters, or to turn the power on or off at a particular property. Smart meters also help to curtail the theft of electricity. Altogether some 76m of them have been installed worldwide, according to ABI Research, and that number is forecast to increase to 155m by 2013. So far the pioneer is Italy, where the main utility, Enel, has deployed more than 30m smart meters to its customers since 2001. About 12m smart meters will be installed in California over the next few years, and the province of Ontario has told its utilities to install a smart meter for every household by 2010.

But the smart meter is only the first step. Eventually smart meters will communicate with smart thermostats, appliances and other devices, giving people a much clearer view of how much electricity they are consuming. Customers will be able to access that information via read-outs in their homes or web-based portals, through which they will be able to set temperature preferences for their thermostats, for example, or opt in or out of programmes that let them use cleaner energy sources, such as solar or wind power.

As well as giving utilities more control, smart meters also give them more flexibility. In particular, they can vary the price of electricity throughout the day in response to demand. Telling people that electricity is more expensive when demand is high will encourage them to do their laundry when demand has fallen and electricity is cheaper, says Rick Stevens of Hydro One, a power company in Ontario that has installed almost 900,000 smart meters to date and plans to start sending price signals to its customers in 2010.

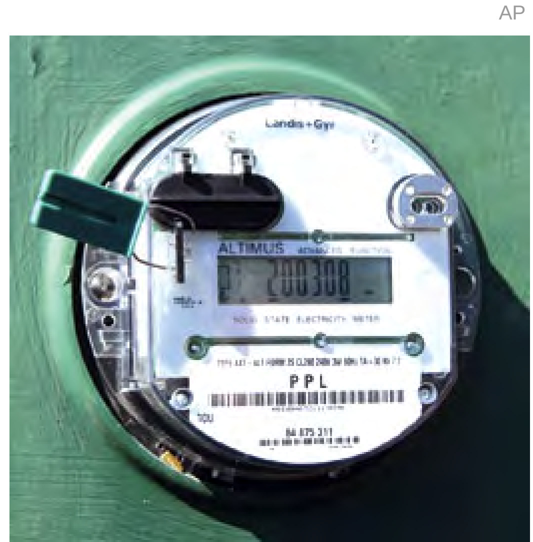
This could be done by showing real-time price and usage information on a display so that consumers can decide whether to turn on the washing machine. Studies have found that when people are made aware of how much power they are using, they reduce their use by about 7%. With added incentives, people curtail their electricity use during peaks in demand by 15% or more. But eventually it should be possible to do it automatically, so that the dishwasher waits for the price to fall below a certain level before switching on, for example, or the air-conditioner turns itself down when the price goes up.

This is more complex than today's pricing, of course, but customers will be able to save money if they are prepared to put up with a bit more complexity. "If you don't want to participate, then you're going to pay a much higher rate per kilowatt-hour," says Peter Corsell of GridPoint, a company that has developed a web-based portal that lets people respond to price changes from utilities. "And if you want to opt in, you may save a whole lot of money." During a one-year pilot study carried out by PNNL, for example, consumers reduced their electricity bills by an average of 10% compared with the previous year.

The advantage from the utility's point of view is that it becomes easier to balance supply and demand by reducing consumption at times of peak demand, such as during very hot or cold spells, when people crank up their air-conditioners or heaters. As well as improving the stability of the system, it could also enable utilities to postpone the construction of new power stations, or even do without them altogether, by reducing the peak level of demand that they have to meet.

Moreover a smart grid will make it easier to co-ordinate the intermittent and dispersed sources of power, from rooftop solar panels or backyard wind-turbines, for example. And, of course, a smart grid could also help manage the charging of electric vehicles. The best time to charge vehicles is at night, when lots of cheap electricity is available. "If we don't do that, then we will add to peak loads and we'll have to build huge amounts of infrastructure to handle our vehicles," says Robert Pratt of PNNL. The flow of energy between the grid and electric cars need not be one-way. With millions of electric cars plugged in at any one time, they could act as an enormous energy-storage system, absorbing excess power from wind turbines on windy nights, for example, but also feeding power back into the grid if necessary (an approach called "vehicle to grid", or V2G) if the wind suddenly drops.

AP



Smarter than it looks

Electricity bills

Implementing all this will not be cheap. A smart meter costs about $125, and can cost several hundred dollars more to install, once the necessary communications network and data-management software at the utility are taken into account. (Smart meters can collect customer readings as often as every 15 minutes, rather than every month, so utilities need new software to cope with all the extra data.)

The American government is spending some $4 billion from its economic-stimulus package on smart-grid initiatives, but providing a smart meter for every American home would cost far more: California's investor-owned utilities alone are spending about $4.5 billion on deploying smart meters over the next few years. That implies that a nationwide implementation could cost around $50 billion. But PNNL estimates that $450 billion would have to be poured into conventional grid infrastructure to meet America's expected growth over the next decade anyway. Mr Carlson, who now works for GridPoint, argues that a bit of thought is called for if the aim is to move to a new energy-management model, "as opposed to building more of what we've already got."

One problem is that power companies are understandably reluctant to invest in technologies that will reduce consumption of the product they sell, even if there are other benefits. One way to realign the public interest with that of the utilities is through a process called "decoupling" which breaks the direct relationship between electricity sales and profits, a measure that has been successfully employed in California. Energy use per person has remained largely flat over the past 30 years in California, but it has increased by roughly 50% for the rest of America. But in some instances the business case is straightforward. Enel spent around €2.1 billion ($3 billion) installing its 30m smart meters in Italy, but now saves around €500m a year as a result, so its investment paid for itself within five years.

As well as producing savings from improved operational efficiency, a smart grid could also save utilities money by reducing consumption, and with it the need to build so many new power stations. Reducing peak demand in America by a mere 5% would yield savings of about $66 billion over 20 years, according to Ahmad Faruqui of the Brattle Group, a consultancy that has worked with utilities on designing and evaluating smart-meter pilot programmes. Moreover, studies have shown that the best in-home smart-grid technologies can achieve reductions in peak demand of up to 25%, which would result in savings of more than $325 billion over that period, calculates Dr Faruqui. "Technology is expensive," he says, "but not using it will be even more expensive."

Smart-grid technology offers a wide range of possibilities, so deployments will vary depending on each utility's business needs, existing infrastructure and regulatory environment. Some utilities may seek to use the technology to maximise energy efficiency, for example, while others may focus on the integration of renewable energy sources. "You're never going to build the same smart grid twice, so you have to look for overriding themes," says Brad Gammons of IBM, a computer giant, which has helped dozens of utilities with their smart-grid implementations. Amid all the variations, however, one point of consensus has emerged. To handle all of the information that must be sent to and fro to make a smart grid work, "more bandwidth is better", says Mr Gammons.

Although smart grids are often likened to an internet for energy, there is one important difference. The internet is built on open technical standards, from internet protocol to move packets of data around to hypertext mark-up language to define the appearance of web pages. But agreement on standards has yet to be reached for smart grids, which can pose a problem when different networks and technologies are expected to work together.

Some standards exist, but others are just emerging, says Don Von Dollen of the Electric Power Research Institute, whose organisation was recently asked by America's National Institute of Standards and Technology to develop a "smart-grid interoperability standards road map". Agreed-upon standards would allow companies to buy and sell devices, services and software in the knowledge that they would work together.

One area where such interoperability will be critical is in the home. Many utilities want people to be able to buy smart thermostats, smart appliances and other smart-grid technologies in shops, says Sam Lucero of ABI Research, "and if everything is proprietary that becomes much more problematic." Another complication is that there is currently no standard way to access historical billing information or real-time metering data, which would be extremely helpful to developers of web-based billing and energy-analysis services for consumers, says Erich Gunther of EnerNex, a consulting firm based in Knoxville, Tennessee, that is advising California's energy commission on smart metering and demand response programmes.

Once these issues are ironed out, though, the smart grid could provide the platform for a huge range of innovation and applications in energy, just as the internet did in computing. "I think that an open, standards-based network could give birth to a thousand new companies," says Eric Dresselhuys of Silver

Spring Networks, a firm based in California that works with utilities to implement smart-grid networks. A smarter grid will not only help people save energy or use it more efficiently, but will also promote the adoption of all kinds of green technologies, including wind, solar and plug-in vehicles. “It’s the platform that allows for the transformation of one of the largest and most important industries in the world to take place,” says Mr Dresselhuys.

Automotive technology

The connected car

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From The Economist print edition

Cars are becoming more connected, both to remote systems for navigation and information, and to each other

Illustration by Allan Sanders



IN "KNIGHT RIDER", a 1980s television show, Michael Knight fought for justice with the help of KITT, an artificially intelligent Pontiac Trans Am. The pair chatted amiably, with KITT sensing and reacting to nearby objects, navigating and looking up information about Mr Knight's immediate surroundings and deadly adversaries. KITT could even drive itself. Thirty years on, many of the fantastical Pontiac's features are becoming reality.

A modern car can have as many as 200 on-board sensors, measuring everything from tyre pressure to windscreen temperature. A high-end Lexus contains 67 microprocessors, and even the world's cheapest car, the Tata Nano, has a dozen. Voice-driven satellite navigation is routinely used by millions of people. Radar-equipped cruise control allows vehicles to adjust their speed automatically in traffic. Some cars can even park themselves.

Once a purely mechanical device, the car is going digital. "Connected cars", which sport links to navigation satellites and communications networks—and, before long, directly to other vehicles—could transform driving, preventing motorists from getting lost, stuck in traffic or involved in accidents. And connectivity can improve entertainment and productivity for both driver and passengers—an attractive proposition given that Americans, for example, spend 45 hours a month in their cars on average. There is also scope for new business models built around connected cars, from dynamic insurance and road pricing to car pooling and location-based advertising. "We can stop looking at a car as one system," says Rahul Mangharam, an engineer at the University of Pennsylvania, "and look at it as a node in a network."

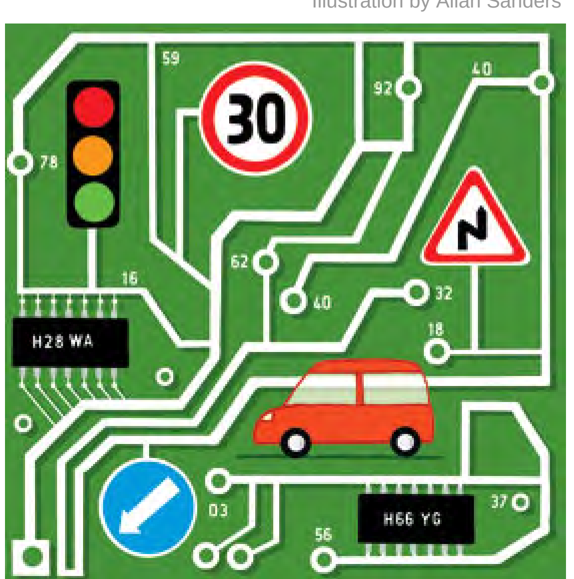
It started with a satnav

The best known connected-car technology is satellite navigation, which uses the global-positioning system (GPS) in conjunction with a database of roads to provide directions and find points of interest. In America there were fewer than 3m navigational devices on the road in 2005, nearly half of which were built in to vehicles. But built-in systems tend to be expensive, are not extensible, and may quickly be out of date. So drivers have been taking matters into their own hands: of the more than 33m units on the road today, nearly 90% are portable, sitting on the dashboard or stuck to the windscreen.

Many consumers are now adding internet connectivity to their cars in the form of another portable

device: the “smart” phone. A two-way internet link allows for more elaborate forms of navigation, and also makes it possible to gather and aggregate information from large numbers of vehicles, notes Dev Khare of Venrock, a Silicon Valley venture-capital firm that is investing in connected-car technology. Examples of such aggregation include Openstreetmap, a project to create open-source maps by collecting GPS data from users as they drive about, and Trapster, a constantly updated database of the locations of police speed traps, compiled from reports sent in by users of the software.

Illustration by Allan Sanders



Inrix, a provider of traffic data based in Seattle, has based its business model on this approach. It combines information from static sensors in the road with GPS information collected wirelessly from more than 1m fleet vehicles to provide real-time information about traffic flows. This information is piped in turn to navigation devices and smart-phones, in order to adjust a delivery route in response to an accident, for example. The company can also forecast traffic flows on a particular route at a particular time and date.

Information specific to individual cars can also present new opportunities. Some insurers, for example, offer dynamic insurance schemes that use GPS to determine a driver’s premiums, based on distance travelled, driving style and where the car is driven and parked. Similarly, the ability to treat a car as a node on a network is shaking up the idea of car ownership itself. Zipcar, the largest car-sharing scheme, shares 6,000 vehicles between 275,000 drivers in London and parts of North America—nearly half of all car-sharers worldwide. Its model depends on an assortment of in-car technology. “This is the first large-scale introduction of the connected car,” claims Scott Griffith, the firm’s chief executive.

Zipcar’s available vehicles report their positions to a control centre so that members of the scheme can find nearby vehicles through a web or phone interface. Cars are unlocked by holding a card, containing a wireless chip, up against the windscreen. Integrating cars and back-office systems via wireless links allows Zipcar to repackage cars as a flexible transport service. Each vehicle operated by Zipcar is equivalent to taking 20 cars off the road, says Mr Griffith, and an average Zipcar member saves more than $5,000 dollars a year compared with owning a car.

Vehicle shall speak unto vehicle

The next step is to enable cars to communicate with each other via vehicle-to-vehicle (V2V) networks, and with infrastructure such as toll gates and traffic lights via vehicle-to-infrastructure (V2I) links. A new wireless standard called Dedicated Short Range Communication (DSRC)—a sort of Wi-Fi for cars—provides high-speed data connections over distances of up to 200m, and safety and emergency communications at lower speeds over distances of up to a kilometre from one vehicle to another, and between vehicles and roadside transmitters. So far the technology is mainly used in electronic toll booths, but it has many other potential applications.

DSRC could be used, for example, to warn nearby cars of sudden braking or an airbag deployment, thereby alerting cars out of visual range and preventing or limiting accidents. It could be used to set up ad hoc networks to pass data between cars in order to, for example, signal icy spots on the road (many cars can detect ice as part of their skid-control systems) or co-ordinate “platoons”—groups of vehicles

travelling closely together under automatic control. Other proposed uses include signalling the approach of emergency vehicles and ensuring that traffic lights give priority to buses and emergency vehicles.

V2V features depend on a network effect—the technology is useless to a driver who is the only one using it—but a network could emerge surprisingly quickly. Dr Mangharam says his simulations and on-road tests in Pittsburgh, carried out in conjunction with the research arm of General Motors, have shown that V2V networking has benefits when as few as 3-5% of cars are equipped to exchange just four pieces of data—position, speed, direction and time—with other vehicles in the vicinity. As these drivers respond to their enhanced awareness, they influence the overall flow of traffic, benefiting everyone. Dr Mangharam reckons this level of adoption is at least a decade away.

The prospects for adoption of new V2I technology, beyond road tolls, seem to be greatest in Japan, where researchers have been testing traffic signals that use video-cameras and infra-red beacons to communicate with approaching cars. Such systems can guide drivers into particular lanes as they approach a junction to ensure a smooth flow of traffic or allow emergency vehicles to pass, greatly improving safety. The Japanese government plans to deploy the system more broadly from 2010, in co-ordination with local carmakers, who will provide the necessary in-car technology in new models.

Such co-operation is lacking elsewhere, where carmakers are understandably reluctant to add new features to cars if the necessary infrastructure is not being built by local transport authorities. “It is a chicken and egg problem,” says Dr Mangharam, who estimates it would take $4.5 billion to upgrade every traffic light and junction in America with smart infrastructure.

Commercial vehicles may get the ball rolling first. Connected-vehicle technology is being considered for roadside inspections, freight tracking, road-condition notifications, parking management and enforcing rules on drivers’ working hours. And adoption of the technology could be mandated by governments, as in the case of Germany’s Toll Collect system, a dynamic road-tolling system for lorries of 12 tonnes or over that has been operating since late 2004. Toll Collect uses a combination of satellite positioning, roadside sensors and a mobile-phone data connection to work out how much to charge each user. Over 900,000 vehicles are now registered with the scheme and there are plans to extend this approach to road-tolling across Europe from 2012. Eventually it may also be extended to ordinary cars.

Communication breakdown

Will drivers welcome this? Driving already involves a high degree of trust: people who do not know one another routinely engage in life-or-death co-operation. That trust, and the cues that engender it, may not translate into a V2V system, where a malicious or malfunctioning signal could snarl traffic or cause a pile-up. Another problem is privacy. Cars are closely associated with the notion of personal freedom, even if the reality often involves bumper-to-bumper agony. The use of GPS and roadside sensors to track vehicles and monitor how fast they are moving is already unpopular and controversial in some quarters.

Yet if the benefits are palpable, drivers will be prepared to place their trust in connected car networks, and even to give up some privacy. Early adopters of dynamic car-insurance schemes, for example, tend to be safer drivers who pay lower premiums in return for allowing insurers to track them. Connected-car technology could help drivers find parking spaces, avoid traffic and prevent accidents. “By 2045 it will be impossible for a driver to impact another vehicle or drive off the road without the serious intention of doing so,” says Scott McCormick of the Connected Vehicle Association, an industry group established to promote the technology. Violating traffic rules could also become impossible—getting away with it certainly will be.

So why drive at all? Researchers at several universities have built autonomous cars to complete an urban-driving challenge set by the American armed forces in 2007. Some of the technology is already in production cars: Toyota’s Lane-Keeping Assist, for example, could easily do much of the driving on long stretches of highway, but the firm requires drivers keep their hands on the wheel—for now. A team led by Alberto Broggi at the University of Parma has built an autonomous car that will be set loose this summer to navigate Italian urban traffic by itself—a formidable test. And Sven Beiker, the director of Stanford University’s CarLab, says automatic driving in some situations, such as stop-and-go traffic or smooth motorway driving, could be reliable enough for general use in a decade. KITT would be proud.

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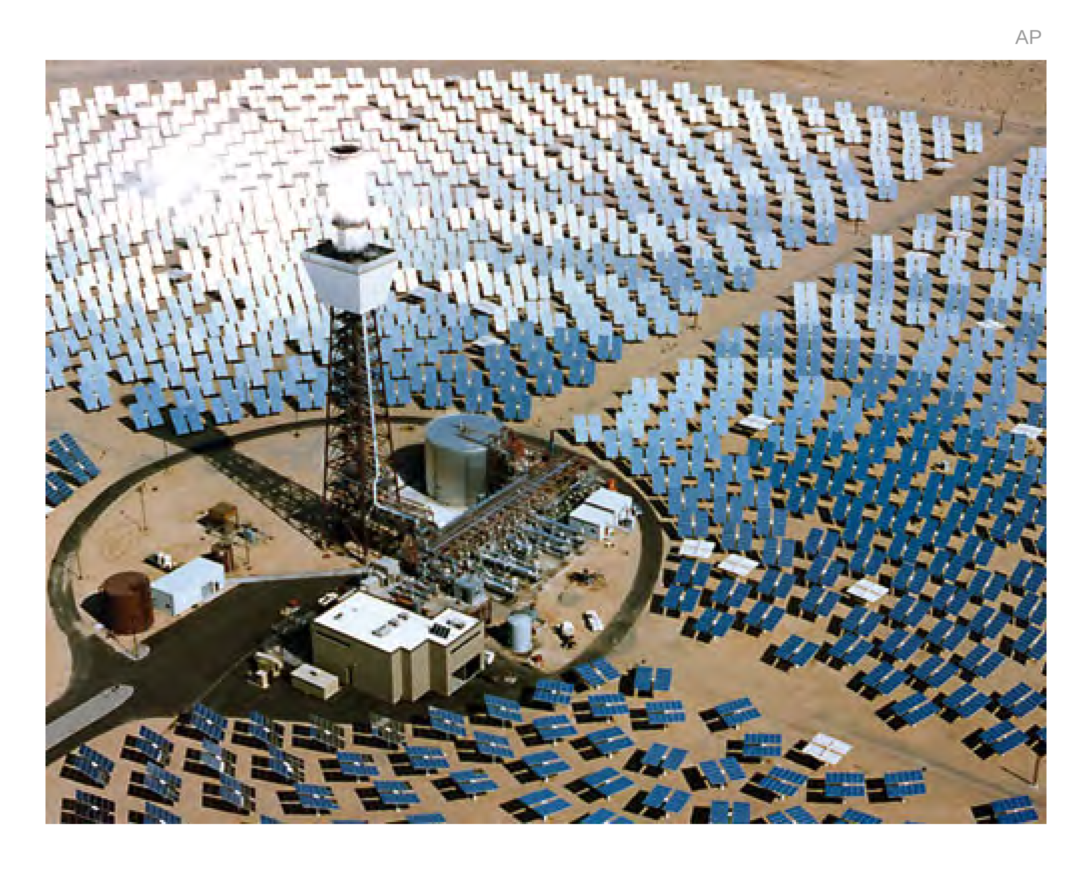
Solar-thermal technology

The other kind of solar power

Jun 4th 2009
From The Economist print edition

Energy: Think of solar power, and you probably think of photovoltaic panels. But there is another way to make electricity from sunlight, which arguably has even brighter prospects

AP



IN THE past few months BrightSource Energy, based in California, has signed the world's two largest deals to build new solar-power capacity. The company will soon begin constructing the first in a series of 14 solar-power plants that will collectively supply more than 2.6 gigawatts (GW) of electricity—enough to serve about 1.8m homes. But to accomplish this feat BrightSource will not use photovoltaic cells, which generate electricity directly from sunlight and currently constitute the most common form of solar power. Instead, the company specialises in "concentrating solar-thermal technology" in which mirrors concentrate sunlight to produce heat. That heat is then used to create steam, which in turn drives a turbine to generate electricity.

Solar-thermal power stations have several advantages over solar-photovoltaic projects. They are typically built on a much larger scale, and historically their costs have been much lower. Compared with other renewable sources of energy, they are probably best able to match a utility's electrical load, says Nathaniel Bullard of New Energy Finance, a research firm. They work best when it is hottest and demand is greatest. And the heat they generate can be stored, so the output of a solar-thermal plant does not fluctuate as wildly as that of a photovoltaic system. Moreover, since they use a turbine to generate electricity from heat, most solar-thermal plants can be easily and inexpensively supplemented with natural-gas boilers, enabling them to perform as reliably as a fossil-fuel power plant.

Besides these benefits, the main drivers for the growth of the solar-thermal industry are moves to limit carbon-dioxide emissions and requirements to increase the proportion of electricity produced from renewable sources. According to New Energy Finance, about 12GW of concentrating solar-thermal power capacity is being planned worldwide—a vast amount, given that only about 500 megawatts (MW) of such capacity has been built to date. To maximise the energy that can be collected from the sun, solar-power facilities are being constructed in regions that enjoy daily uninterrupted sunshine for much of the year.

According to Mark Mehos of America's National Renewable Energy Laboratory, solar-thermal power could in theory generate 11,000GW in America's south-west. That is about ten times America's entire existing power-generation capacity.

Simple techniques for concentrating sunlight to generate heat date back thousands of years. In China and ancient Greece, people focused the sun's rays with mirrors or glass to light fires. In times of war, the same approach is said to have been used to set enemy ships ablaze. By the early 20th century several scientists had built simple machines that could run on concentrated heat from the sun.

A significant milestone was reached in 1913 when Frank Shuman, an American inventor, created the first large solar-thermal pumping station in Meadi, Egypt. He designed a system based on five large reflectors, each 62 metres long and made of glass mirrors arranged to form a trough in the shape of a parabola. Each parabolic trough focused sunlight onto a tube running along its length, heating the water inside it. The resulting steam powered an engine connected to a pump capable of delivering 6,000 gallons of water a minute from the Nile to nearby fields.

Do try to concentrate

The modern history of solar-thermal power began after the oil crises of the 1970s, which prompted many nations to start to investigate clean and renewable energy sources as alternatives to fossil fuels. Over the following decades America, Spain and a handful of other countries built solar-thermal pilot plants for research purposes. The first company to implement the technology on a commercial scale was Luz International, an Israeli company founded in 1980.

Drawing on prior research, Luz began building a series of solar-thermal power stations in California's Mojave desert in the mid-1980s. Like Mr Shuman before, the company used parabolic troughs to focus sunlight on to liquid-filled tubes, but instead of water they used oil as the heat-transfer fluid. Once it reached a temperature of about 390°C, the hot oil was pumped to a so-called "power block" where it went through a series of heat exchangers, turning water into steam and powering a conventional steam-turbine. The turbine then turned a generator to produce electricity.

Getty Images



A power of tower near Seville

By 1990 Luz had constructed nine plants with a total capacity of 354MW. At the time, solar-thermal power was producing about 90% of all solar electricity in the world, says Arnold Goldman, the former chief executive of Luz, who is now chairman of BrightSource. But when the price of natural gas fell and America's tax incentives for solar power were not renewed, the industry came to a grinding halt. For nearly two decades no new commercial solar-thermal plants began operating. In the meantime, solar-

photovoltaic technology slowly took over the market, and by 2007 worldwide installed capacity reached 9.2GW. Although it is more expensive per kilowatt-hour, solar panels can be deployed in small, modular systems, and thus require much less capital investment. Moreover, they can generate power off the grid, which turned out to be an important market for solar power in its early days.

Now, as the solar-thermal industry is experiencing a revival, parabolic-trough projects are garnering much of today's investment money because of their proven track record. To improve the economics still further, SkyFuel, a firm based in New Mexico, is replacing curved glass mirrors, which are expensive to make, with a thin, reflective low-cost film. And other competing solar-thermal technologies that were developed in parallel with trough-based systems, but never commercialised, are also ready to be deployed.

Among them is an approach that BrightSource uses, in which a field of small, flat mirrors called "heliostats" redirect and concentrate sunlight onto a central receiver at the top of a tower. The tower contains a fluid, typically water, which boils and the resulting steam is then transferred to a nearby "power block", where it spins a conventional turbine. The advantage of this "power tower" approach is that it can produce steam at a temperature of 550°C and can thus achieve a higher thermal-to-electric efficiency than trough-based systems, says John Woolard, the chief executive of BrightSource. In addition, he says, power-tower systems suffer from fewer pumping losses than trough-based designs. The first commercial power-tower began operating in Spain in 2007.

Another advance that makes solar-thermal power more economically and technologically viable than in the past is the ability to use a large number of smaller and less expensive mirrors, steered by computer systems, to ensure more accurate and automatic tracking and redirection of sunlight than was ever possible before. Bill Gross, the chief executive of eSolar, a developer of "power tower" technology based in Pasadena, California, says his firm is using software to turn thousands of flat mirrors and shape them into a continuously evolving parabola around the tower.

Storage and hybrids

Both power-tower and parabolic-trough systems can store thermal energy in the form of hot, molten salt. It is then possible to generate steam, and thus electricity, even when the sun is not shining. Solar-thermal plants without storage can operate about 30% of the year; but with storage that number could climb to 70% or higher. Unfortunately storage is expensive, and is only economical when regulators provide incentives. In Spain, for example, producers of solar-thermal power receive a guaranteed feed-in tariff. That makes it particularly appealing for Spanish plants to have storage capabilities, to maximise their ability to sell electricity to utilities. In America the main incentives for solar-thermal projects are a 30% investment-tax credit or an equivalent cash grant. As a result, American plants have to be built more cheaply in order to make a profit, and thus typically do not include storage.

Eyevine



Power from a parabola

A cheaper alternative to storage is hybridisation. All the original Luz plants also have natural-gas boilers that can generate steam when the sun is not shining. Because solar-thermal plants have a power block and turbine already in place, the extra cost is marginal. Hybridisation could also be done the other way around, by using steam generated from solar-thermal collectors to help drive the turbines at existing coal or gas plants. The Electric Power Research Institute, based in Palo Alto, is studying the feasibility of this approach as a means of reducing fuel costs and emissions at existing power stations.

In addition to parabolic troughs and power-towers there is also a third solar-thermal technology, which combines curved, dish-shaped mirrors with heat engines. In a dish-engine design, the mirrors concentrate sunlight to generate heat, which then typically powers a Stirling engine—a machine that converts heat into mechanical energy by compressing and expanding a fixed quantity of gas. The change in pressure drives the engine's pistons, which drive a shaft that turns a generator to produce electricity.

Although they are highly efficient, Stirling engines have seen little practical use since their invention nearly two centuries ago, and so far there are no commercial solar-thermal systems that use this approach. Critics of the technology say it involves too many moving parts, making it more complex and expensive to operate and maintain than competing technologies. Stirling Energy Systems, based in Phoenix, Arizona, hopes to prove the doubters wrong. It has signed two large power-purchase agreements, for up to 1,750MW, and plans to fulfil them using dish-engine systems built in conjunction with its sister company, Tessera Solar. Both projects are due to start construction as early as 2010.

One obstacle hampering the growth of the entire field is the difficulty of obtaining financing for solar-thermal projects in the current economic climate, says Thomas Mancini, programme manager for concentrating solar-power at Sandia National Laboratories. As a result, some announced projects may be delayed or perhaps never be built. The situation has prompted some companies to change their business models: Ausra, a solar-thermal company based in Mountain View, California, has switched from being an independent power-producer to being mostly an equipment supplier, for example.

Although solar-thermal power produces no carbon-dioxide emissions, it can have some negative environmental impacts. Both power-tower and trough-based systems are typically water-cooled, and require millions of gallons of water annually. That can cause big problems, especially in desert environments. The California Energy Commission recently urged NextEra Energy Resources, a renewable-energy company, to consider dry cooling instead of using water for its proposed solar-thermal power project in Kern County, California. (Stirling-engine designs do not require water for cooling.) Another potential problem when building power plants in remote locations is a lack of transmission lines, since it is difficult and expensive to get new transmission lines approved and built.

Despite these problems, many people think a massive scale-up of the industry is imminent. Among them is Mr Woolard, who believes that solar-thermal power could regain its historical lead over the solar-photovoltaic approach. Competition from photovoltaic systems for large-scale power generation should not be underestimated, however. According to Mr Bullard, thin-film solar-cell modules are rapidly falling in price, and can generate electricity more cheaply than solar-thermal power in some situations. But no matter which approach comes out on top, competition between the two technologies is sure to foster continued innovation, and a growing supply of clean electricity, in the years to come.

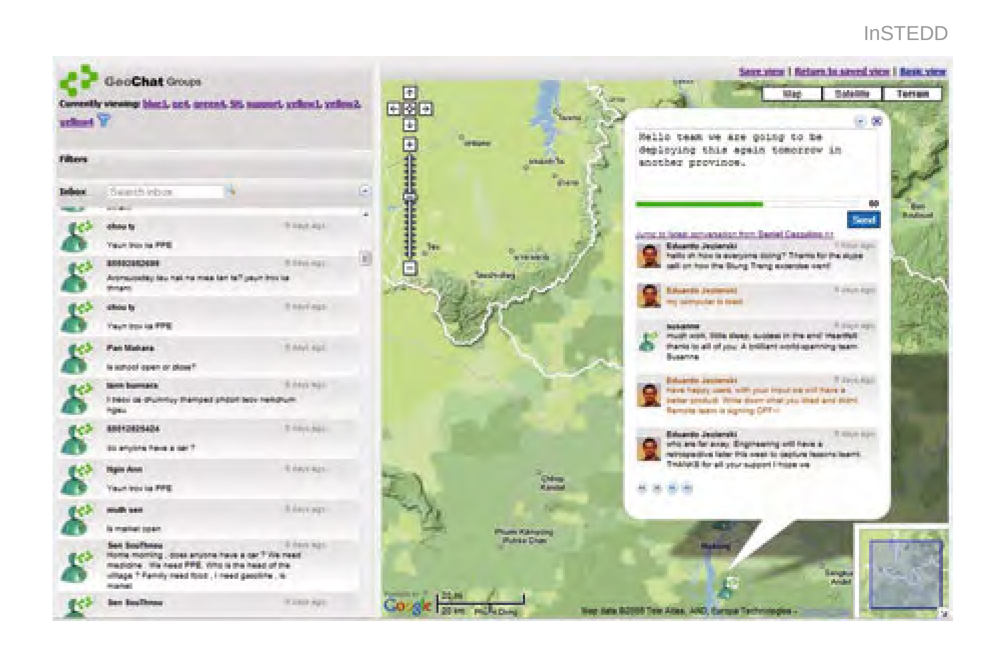
Mobile phones

Sensors and sensitivity

Jun 4th 2009
From The Economist print edition

Data collection: Mobile phones provide new ways to gather information, both manually and automatically, over wide areas

InSTEDD



IF YOUR mobile phone could talk, it could reveal a great deal. Obviously it would know many of your innermost secrets, being privy to your calls and text messages, and possibly your e-mail and diary, too. It also knows where you have been, how you get to work, where you like to go for lunch, what time you got home, and where you like to go at the weekend. Now imagine being able to aggregate this sort of information from large numbers of phones. It would be possible to determine and analyse how people move around cities, how social groups interact, how quickly traffic is moving and even how diseases might spread. The world's 4 billion mobile phones could be turned into sensors on a global data-collection network.

They could also be used to gather data in more direct ways. Sensors inside phones, or attached to them, could gather information about temperature, humidity, noise level and so on. More straightforwardly, people can send information from their phones, by voice or text message, to a central repository. This can be a useful way to gather data quickly during a disaster-relief operation, for example, or when tracking the outbreak of a disease. Engineers, biologists, sociologists and aid-workers are now building systems that use handsets to sense, monitor and even predict population movements, environmental hazards and public-health threats.

A good example is InSTEDD (Innovative Support to Emergencies, Diseases and Disasters), a non-profit group based in California, which promotes the use of mobile phones to improve developing countries' ability to respond to disasters. Launched with seed money from Google's philanthropic arm and the Rockefeller Foundation in late 2007, it has just released a suite of open-source software to share, aggregate and analyse data from mobile phones. Its first test-bed is Cambodia, where health-workers can send text messages, containing observations and diagnoses, to a central number.

The sender's location is determined for each of the messages, which pop up as conversation threads on an interactive map that can be called up on the web. Clicking on this map allows text messages to be sent back to users in the field from the control centre. InSTEDD says this service, called GeoChat, enables "geospatial ground-truthing, as your mobile team works to confirm, refute, or update data".

Automating the reporting of titbits from remote clinics has already had a profound impact, says Eric

Rasmussen, InSTEDD's chief executive. Instead of recording information on scraps of paper, which would sometimes take days to reach higher-ups and trigger an alarm, the cycle-time has been reduced to days or even hours. GeoChat has been officially adopted by the six countries which share a border in the Mekong Basin, including Myanmar and Yunnan province in China, establishing a flow of real-time disease data from villages in the region to each country's health ministry. Authorities can then choose to share this information with international bodies such as America's Centres for Disease Control and Prevention (CDC) or the World Health Organisation. The aim is to enable a quick response to any outbreak of avian flu, cholera, malaria or dengue fever. InSTEDD is helping aid organisations and government agencies deploy its free tools in other countries, including Bangladesh, Peru and Tanzania.

An alternative approach is to gather information passively from mobile phones, without any user intervention. Alex Pentland, a computer scientist at the Massachusetts Institute of Technology, dreams of "X-raying entire organisations, cities and countries" by collecting data in two ways. First, some handsets can capture information about individuals, such as their activity levels or even their gait, using built-in motion sensors. (Modern handsets use these sensors to work out whether to display information in landscape or portrait format.) Second, information from mobile-network operators, which keep track of handsets in order to pass them smoothly from one network cell to another, can provide a high-level view of how people move around. Dr Pentland's algorithms can even cluster information from thousands of phones to divide people into "tribes" of like-minded folk. He calls this "reality mining".

Following the crowd

Nokia



Sense Networks, a company co-founded by Dr Pentland, wants to use the predictions derived from tracking mobile phones not only for commercial purposes—to produce real-time maps showing the most popular nightlife venues in a particular city, for example—but also for the public good. The company's charitable foundation is working with Vodafone, a big mobile operator, the CDC and other collaborators to build an early-warning system for modelling and predicting the spread of tuberculosis in South Africa.

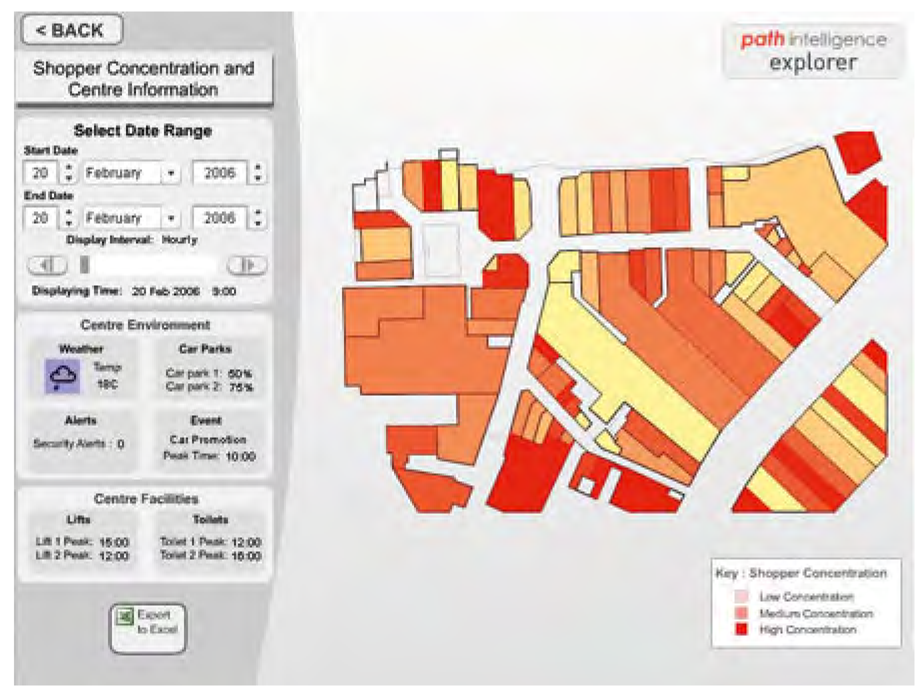
As a first step, Sense plans to collect positional information from a control group of infected patients being treated at Helen Joseph Hospital in Johannesburg who would have to volunteer to participate in the scheme. Dr Pentland and his colleagues will then be able to determine which neighbourhoods these patients frequent, and their commuting patterns between them. They hope this will then enable them to work out the characteristics of typical TB patients, so that they can then spot potentially infected people in the wider population. How public-health officials will use this information has yet to be decided: people who are thought to be infected could be contacted by text message and asked to visit a doctor, for example.

Path Intelligence, a British firm, is applying a similar approach to answer more commercial questions. Its FootPath system aggregates and analyses signals picked up from mobile phones as people move through a particular area. The results can be used by planners to optimise the flow of pedestrians through railway stations and airports or to guide the layout of shopping centres. It can determine, for example, whether customers who visit a given shop also visit a rival shop. The same passive method can be used to figure out where best to locate emergency exits, and even to locate clusters of survivors after a disaster.

But some people find the idea of having their movements tracked in this way unsettling, even when the data are anonymised and aggregated. And knowing someone's position is not enough on its own to determine whether they carry a disease or would be interested in going to a particular nightclub. So the best approach may be to combine voluntary (but potentially unreliable) contributions that are submitted manually with automated data capture that does not require user intervention, but may not capture the whole picture. A good example is the study of well-water contamination in Bangladesh conducted by Andrew Gelman, a statistician at Columbia University. His project combined readings from remote water-sensors with queries and data which villagers keyed into their mobile phones.

On a grander scale, InSTEDD's Dr Rasmussen is trying to stitch together a global network, tentatively dubbed Archangel, to combine all manner of data sources, from satellite imagery and seismic sensors to field-workers texting from refugee camps. A first glimpse of what such a network would look like is pachube.com, an experimental web-service launched in 2007 by Usman Haque, an architect based in London. He aims to patch together sensors and people into a "conversant ecosystem" of devices, buildings and environments.

Path Intelligence



Watching while you shop

Some computer scientists look forward to the day when mobile phones and sensors can provide a central nervous system for the entire planet. An abundance of sensors, they believe, will lead to two things. First, the amount of data will increase, allowing scientists to build more realistic models. Alessandro Vespignani of Indiana University compares the current state of affairs to weather forecasting a century ago, before satellites had provided meteorologists with the data to build and optimise mathematical models. When it comes to problems such as tracking and predicting the spread of diseases and other environmental hazards, he argues, scientists can never get enough data.

The human touch

Second, once people are able to contribute data to research projects from their mobile phones, it could provide an ideal way to broaden public involvement in scientific activities. This would be the next logical step after the popularity of web-based participation in scientific research, from folding proteins to categorising photographs of galaxies. Eric Paulos, a computer scientist at Carnegie Mellon University in Pittsburgh, predicts the rise of “citizen scientists” able to measure and sample their surroundings wherever they go. When people can report mundane variables such as the level of traffic noise in their street or the degree of air pollution at the bus stop, he argues, their outlook on science changes. “People develop a relationship with and a sense of ownership over the data,” he says. He foresees amateur experts being driven by a new sense of volunteerism, the 21st-century equivalent of cleaning up the neighbourhood park. Nokia has even designed a prototype handset with environmental sensors (see article).

Dr Paulos has already equipped street sweepers in San Francisco and taxis in Accra, the capital of Ghana, with sensors to measure pollution levels, which he then used to create a map of each city’s environmental landscape. He plans to do the same with cyclists in Pittsburgh. Graduate students in his newly created Living Environments Lab have loaded households with sensors to sample tap water and indoor-air quality. Results are uploaded to a website where participants can compare them with other people’s contributions.

The technology is probably the easy part, however. For global networks of mobile sensors to provide useful insights, technology firms, governments, aid organisations and individuals will have to find ways to address concerns over privacy, accuracy, ownership and sovereignty. Only if they do so will it be possible to tap the gold mine of information inside the world’s billions of mobile phones.

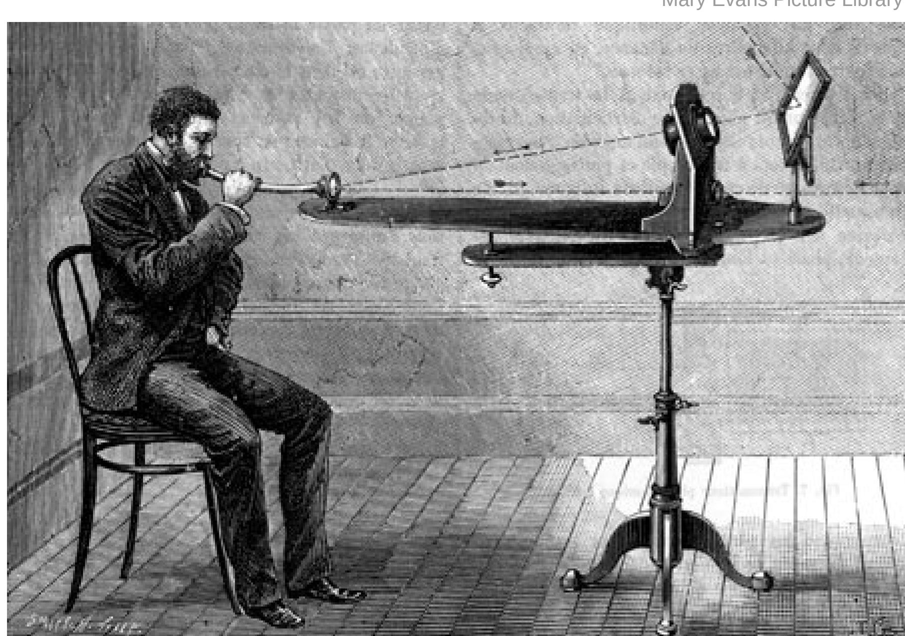
Photoacoustic imaging

The sound of light

Jun 4th 2009
From The Economist print edition

Biomedical technology: A novel scanning technique that combines optics with ultrasound could provide detailed images at greater depths

Mary Evans Picture Library



IF LIGHT passed through objects, rather than bouncing off them, people might now talk to each other on “photophones”. Alexander Graham Bell demonstrated such a device in 1880, transmitting a conversation on a beam of light. Bell’s invention stemmed from his discovery that exposing certain materials to focused, flickering beams of light caused them to emit sound—a phenomenon now known as the photoacoustic effect.

It was the world’s first wireless audio transmission, and Bell regarded the photophone as his most important invention. Sadly its use was impractical before the development of optical fibres, so Bell concentrated instead on his more successful idea, the telephone. But more than a century later the photoacoustic effect is making a comeback, this time transforming the field of biomedical imaging.

A new technique called photoacoustic (or optoacoustic) tomography, which marries optics with ultrasonic imaging, should in theory be able to provide detailed scans comparable to those produced by magnetic-resonance imaging (MRI) or X-ray computerised tomography (CT), but with the cost and convenience of a hand-held scanner. Since the technology can operate at depths of several centimetres, its champions hope that within a few years it will be able to help guide biopsy needles deep within tissue, assist with gastrointestinal endoscopies and measure oxygen levels in vascular and lymph nodes, thereby helping to determine whether tumours are malignant or not. There is even scope to use photoacoustic imaging to monitor brain activity and gene expression within cells.

To create a photoacoustic image, pulses of laser light are shone onto the tissue being scanned. This heats the tissue by a tiny amount—just a few thousandths of a degree—that is perfectly safe, but is enough to cause the cells to expand and contract in response. As they do so, they emit sound waves in the ultrasonic range. An array of sensors placed on the skin picks up these waves, and a computer then uses a process of triangulation to turn the ultrasonic signals into a two- or three-dimensional image of what lies beneath.

The technique works at far greater depths (up to seven centimetres) than other optical-imaging

techniques such as confocal microscopy or optical-coherence tomography, which penetrate to depths of only about a millimetre. And because the degree to which a particular wavelength of light is absorbed depends on the type of tissue and, in the case of blood, on whether it is oxygenated or deoxygenated, there is, in effect, a natural contrast agent. This makes the technique superior to ultrasound alone when it comes to picking out detailed features such as veins.

MRI and CT scans are also capable of delivering this kind of detail. But they usually require contrast dyes to be injected into the bloodstream, says Lihong Wang, a photoacoustic researcher at Washington University in St Louis, Missouri. CT scans also involve potentially harmful ionising radiation. And MRI and CT scans are very expensive, using machines that cost millions of dollars and require dedicated staff to operate them. Photoacoustic tomography, by contrast, could eventually be performed using portable hand-held devices, similar to those used for ultrasound scanning. This would allow doctors to diagnose and monitor patients in clinics, and reduce the need to refer them to consultants. “Photoacoustics provides greater access at a much lower cost than these other technologies,” claims Michael Thornton of Endra, a medical-imaging company based in Ann Arbor, Michigan.

Shining a light

A pioneer of the technique in the late 1980s was Alexander Oraevsky, who was based at the Soviet Academy of Sciences in Moscow at the time. He had been evaluating lasers as a means of removing tissue, but in the course of his experiments he realised that his samples were producing ultrasound, and began exploring the potential of this effect for imaging. Since then the technology has come a long way, not least because of the development of nanosecond pulsing lasers. Being able to deliver such brief pulses of energy to the sample being imaged—a nanosecond is a thousand-millionth of a second—has helped improve the resolution of the resulting images. Dr Oraevsky and other researchers have shown that it is possible to image the entire blood-supply system of a mouse, for example, down to a resolution of about half a millimetre.

One of the most promising applications for photoacoustics is in the treatment of cancer. Since blood cells are natural absorbers of light, photoacoustics is particularly good at providing high-contrast images of the formation of blood vessels (angiogenesis) and detecting increased metabolic activity (hypermetabolism), both of which are hallmarks of cancer, notes Dr Wang. Preliminary clinical research is now under way to look at how the technology can be used to monitor the development of breast cancer and identify how far it has progressed.

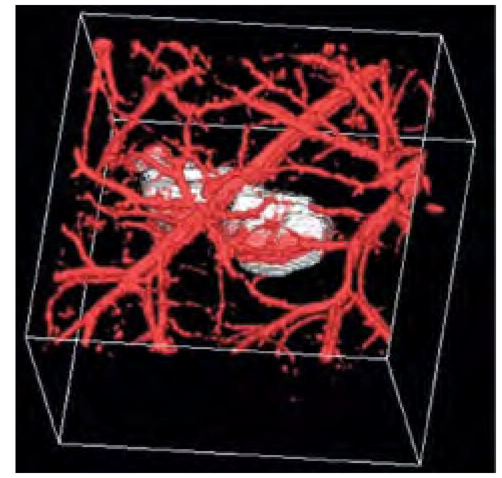
Even with mammography and ultrasound, the current gold standards for breast-cancer screening, doctors cannot tell if a tumour is malignant or benign without performing an invasive and expensive biopsy. “About eight out of ten patients who undergo a biopsy come back negative,” says Dr Oraevsky, who now works for Fairway Medical Technologies, a company based in Houston, Texas. Photoacoustic tomography could potentially be used to diagnose women in the doctor’s surgery.

One approach being explored by Michael Pashley, head of ultrasound imaging and therapy at Philips Research in Briarcliff Manor, New York, is to develop a hybrid ultrasound scanner that can produce ordinary ultrasound scans as well as photoacoustic images. In theory the two images could even be superimposed, he says. At the moment the work, which is being carried out in collaboration with Dr Wang, is geared towards monitoring the development of breast cancers that have already been diagnosed, says Dr Pashley. But if the technology proves successful, he hopes to move on to using it for the initial diagnosis.

Lihong V. Wang

Although the different absorption characteristics of oxygenated and deoxygenated blood provide an extremely good natural contrast agent, this approach has its limits. So some companies are exploring the use of photoacoustics in conjunction with artificial contrast-agents introduced to the bloodstream. VisualSonics, an ultrasound-imaging company based in Toronto, has been evaluating contrast agents made up of gold nanorods attached to antibodies that bind to specific targets found in cancer cells. Ultrasound is already used to detect such agents but its resolution is sufficient to show only the structure of blood vessels. Dr Wang reckons that if contrast agents that are too small to be picked up by ordinary ultrasound were introduced into a patient’s bloodstream, they could be detected using photoacoustic imaging. Furthermore, it would be

possible to see where the contrast agents built up, and hence determine the extent of a tumour. And by creating contrast agents that bind to specific genetic targets, the same technique could be used to monitor gene expression, he suggests.



Getting the picture

Room for improvement

Despite its potential and its many advantages over other methods, there are some difficulties with photoacoustic imaging that have not yet been resolved. As light penetrates deeper into tissue, the resulting ultrasonic signal diminishes. This is partly because some of the light has been absorbed by the preceding tissue, but it is also because the laser light is dispersed, diffused and back-scattered. This places limits on just how deeply photoacoustic imaging can delve. In the future it might be possible to go a little deeper, says Dr Wang, but probably not by much. “If light is delivered from both sides of the tissue, ten-centimetre-thick tissue can potentially be imaged,” he says.

Bone tissue represents another obstacle to the technology, but not for the reason you might think. Laser light usually passes easily through bone, but sound does not. The speed at which sound travels through bone is different from the speed at which it travels through soft tissue, and as the ultrasound passes from one medium to the next it is distorted. Air cavities, many of which are found inside the human body, pose a similar problem, says Dr Wang.

Even so, VisualSonics and other companies are keen to explore the use of photoacoustics for neuroimaging. It is not an insurmountable problem, says Dr Wang, who is working on a technique to model the skull so that its effects on the ultrasonic waves can be predicted and eliminated in software, restoring clarity to the signals. If he can get this approach to work, it would further extend the revolutionary potential of photoacoustic imaging in the coming years. Doctors would not merely be able to diagnose cancer in the comfort of their own surgeries—they would be able to perform brain scans, too. A technology that traces its roots to a stillborn 19th-century communications device would have taken another step towards the futuristic dream of the all-purpose hand-held medical tricorder seen in “Star Trek”.

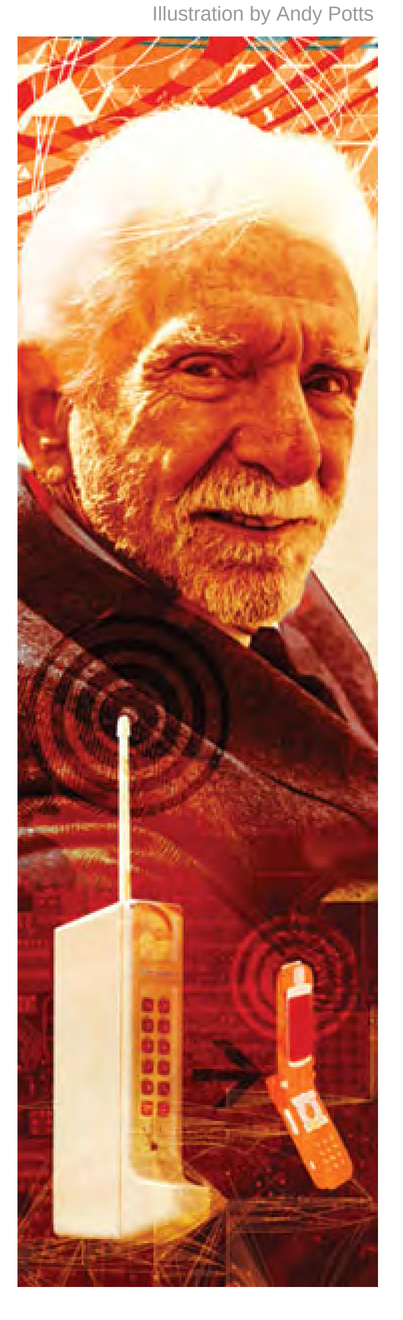
Brain scan

Father of the cell phone

Jun 4th 2009
From The Economist print edition

Marty Cooper, the pioneer of mobile telephony, has spent his entire career pushing wireless communications to new heights

Illustration by Andy Potts



UNLESS you work in the telecoms industry, you are unlikely to have heard of Marty Cooper. He is hardly a household name. But his influence has been felt across the world, because he is the engineer who took the cellular technology used in the carphones of the 1970s and decided that phones ought to be small enough to be portable. His determination led to the first prototype, in 1973, and then to the first commercial mobile phone in 1983. “Marty is the most influential person no one has ever heard of,” says Robert McDowell, a commissioner with the Federal Communications Commission, America’s telecoms regulator.

The son of Ukrainian immigrants, Mr Cooper spent much of his youth in Depression-era Chicago. He says he never went hungry, but his parents made only a modest living selling merchandise door-to-door, on instalment plans. To finance his education at the Illinois Institute of Technology, Mr Cooper joined the Reserve Officers’ Training Corps, and ended up on a navy destroyer, blowing up railway tracks along the North Korean coast during the Korean war. Mr Cooper later switched to submarines and spent a year and a half stationed in Hawaii. There he picked up scuba diving, one of his many athletic pastimes. He enjoyed the navy very much, but he wanted to settle down, so he took a job at Teletype, a subsidiary of Western Electric. He started working at Motorola in 1954 and had earned his masters in electrical engineering at night school by 1957, again at the Illinois Institute of Technology.

Mr Cooper credits his family for his subsequent success. “My resourcefulness and persistence come from watching my folks digging in,” he says. “My mother was a dynamo. She would talk to anyone. She never walked slowly. And I am always leaning forward into the wind.”

It’s an apt image for Mr Cooper’s career, during which he has repeatedly spotted what lies ahead and led others towards the creation of new industries. In the 1960s he was instrumental in the establishment of the high-capacity paging market, for example, turning paging from a technology used in single buildings to one that could stretch across cities. He also helped popularise the quartz watch, by fixing a flaw in the crystals Motorola made for its radios, and then encouraging the firm to mass-produce the first crystals for use in watches. “Marty can see over the horizon and see how things should be,” says Tom Wheeler, a managing director at Core Capital Partners, a venture-capital firm. “And then he makes them happen.”

The idea for the mobile phone first occurred to Mr Cooper in the early 1970s, at a time when cellular phones were unwieldy devices built into car dashboards and attached to a box of equipment—a two-way radio and a power supply—in the car’s boot. There were only a few radio channels available on which to make calls, and users often had to wait a long time for one to become free.

Carried away

But once Motorola put Mr Cooper in charge of its carphone division, he decided that such products should

not merely be able to move around in cars, but should be small and light enough to be carried around the rest of the time. “I became a zealot for products being portable,” he says. From idea to prototype took 90 days in 1972 as Mr Cooper sponsored a design contest among Motorola engineers—many from divisions he did not run. At a dinner he held that December, each engineer presented his own prototype. “We ended up picking the least glamorous phone,” says Mr Cooper. “It was the simplest.”

That device lead to the famous phone call on April 3rd 1973 after Motorola had hosted a press conference to introduce the phone at the Hilton hotel on the Avenue of the Americas in New York. Although the device had already been tested and made successful calls, Mr Cooper’s decision to take it—and a journalist—onto the street to make a demonstration call was a stroke of marketing genius. He cannot remember the journalist’s name, and Joel Engel, the rival engineer whom Mr Cooper called at AT&T’s Bell Laboratories that day, says he does not remember taking the call. But it was the first public call on a hand-held mobile phone. “I was talking and stepped into the street and almost got hit by a car,” Mr Cooper recalls with an impish grin—the first hint of mobile telecommunications’ distracting downside.

The handset, called a DynaTAC, had 35 minutes of talk time and weighed one kilogram (2.2 pounds). Four iterations later Mr Cooper’s team had reduced the DynaTAC’s weight by half, and it was finally launched in 1983 with a list price of about $4,000. By this time Mr Cooper had fought for a decade with Motorola’s bean-counters, who kept asking him when he was going to stop spending so much money on his pet project—he had become Motorola’s head of research and development in 1976—and start generating revenue. “It cost so much and took so long,” admits Mr Cooper. “But my focus has always been on the long-term technology vision.”

Today over half the world’s population has a mobile phone, and it seems obvious that the idea would succeed. But many people within Motorola in the early 1970s wanted to focus instead on expanding the existing market for business-oriented carphones. “But Marty said ‘We’ll get this thing down to the size of the palm of your hand’,” says Travis Marshall, a retired Motorola executive who worked with Mr Cooper. Most people at the time, he says, thought cellular phones would only ever be business tools, because of their high cost. “Marty kept preaching that the cost would come down and that it would become a consumer product,” he recalls. “He hypnotised everyone at Motorola to follow him,” says Sean Maloney, a senior executive at Intel, the world’s biggest chipmaker, who has himself spent several years championing WiMAX, an emerging mobile-broadband technology.

But by the time Motorola started selling the world’s first hand-held mobile phone to consumers, Mr Cooper had already left the company to launch a new firm that provided billing systems for cellular operators. In 1986 he and his partners sold this company, Cellular Business Systems, to Cincinnati Bell for $23m. A few years later Mr Cooper got a call from Richard Roy, a researcher at Stanford University who had an idea to make mobile telecoms more efficient: smart antennas.

By precisely steering radio waves from a base-station towards a mobile device, it is possible to establish a faster, more reliable link—and to support more users at once, by sending different beams to users in different directions using the same radio frequencies. Mr Cooper gets a call or two every week from someone with a business-development idea, so Mr Roy had to be persistent. He finally got to spend some time with Mr Cooper by jogging with him while the two attended an industry convention. Inspired by Mr Roy’s ideas, Mr Cooper agreed to lead a new company, ArrayComm, set up in 1992.

While leading this smart-antenna company, where he is now the chairman, Mr Cooper coined Cooper’s law, which notes that spectral efficiency—the amount of information that can be crammed into a given slice of radio spectrum—has doubled every 30 months since Guglielmo Marconi patented the wireless telegraph in 1897. Modern devices have a spectral efficiency more than one trillion times greater than Marconi’s original device did 112 years ago (it broadcast in Morse code over a very wide frequency range). Smart antennas, Mr Cooper believes, will help to ensure that this progress continues, and his law continues to hold.

But ArrayComm has had only limited success. Having developed its own wireless-broadband system, it now focuses on providing smart-antenna technology to other equipment-makers, for use in cellular and WiMAX networks. “ArrayComm has the same problem as many technology companies,” says Arthur Lipper, a Wall Street veteran who plays tennis with Mr Cooper. “They are ahead of the market, and this is an expensive place to be.” It is Mr Cooper’s strength, but it can also be a weakness. As Mr Cooper himself puts it, “You could say I was visionary. Or you could say I was too far ahead.”

Unusually for a technology visionary, however, Mr Cooper manages to keep the needs of users in mind, rather than becoming enamoured with technology for the sake of it. He recognised early on that mobile phones would offer people greater freedom and flexibility in their working and personal lives—unlike

fixed-line phones, which are tethered to one place, or carphones, which cannot be taken everywhere. A further example is provided by the Jitterbug, a handset designed by his wife, Arlene Harris, which Mr Cooper helped bring to market. This handset, which is now sold by Samsung, has big buttons and basic features and is designed for elderly consumers. As handset-makers crammed more and more features into their phones, Mr Cooper and his wife realised that for some people, less is more.

Beyond the mobile phone

Now 80, Mr Cooper's vigour is undimmed. Getting time on his schedule may require donning skis or tennis shoes. "Marty scampers around the tennis court like a 17-year-old," says Mr Lipper. Despite his achievements, he retains an endearing sense of graciousness and humility. He makes a point of replying to the many children who contact him for comments for use in their school reports.

Perhaps surprisingly, Mr Cooper thinks the real impact of mobile communications is yet to come. Things will get really interesting, he thinks, when consumers "get away from the concept of the cell phone—that implies talk and listen" and new applications, based on sending data to and from mobile devices, take hold. There are already glimpses of the potential for mobile data in the success of the BlackBerry e-mail device and the iPhone, with its vast selection of downloadable software. But Mr Cooper feels strongly that such applications will be more likely to flourish if the world's mobile networks, and the applications that run over them, are developed and managed by different companies, in an open model that mimics the internet. This is yet another idea that Mr Cooper has been pushing for years, says Eric Zimits of Granite Ventures, a venture-capital firm. "He is way ahead in this notion of a mobile internet," he says.

Once mobile operators focus on providing the network—while leaving application development to the open market—competition will flourish, "so that consumers' lives are improved," says Mr Cooper. Open access, he believes, "is just good business". There are certainly signs that things are heading this way, despite the efforts of operators to avoid being reduced to mere "dumb pipes". It may be another case where Mr Cooper has correctly identified the outcome, but it takes longer than expected to materialise.

But that seems to be his role. "Marty created the wireless industry," says Tim McDonald, a former fund manager at Merrill Lynch and one-time board member at ArrayComm. "His greatest strength is his ability to inspire the vision for where the wireless industry can go."

Offer to readers

Jun 4th 2009
From The Economist print edition

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Mining mergers

Prospects for a thaw

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From The Economist print edition

The revival of commodity prices has also resuscitated talk of mergers

Corbis



THE giants of the mining industry might be forgiven a little wistfulness. Just over 18 months ago rumours were rife that a wave of mega-mergers was on the way, the product of persistently high commodity prices. This culminated in a bid by one of the world's biggest diversified miners, BHP Billiton, for another, Rio Tinto, in November 2007. In the wake of BHP's approach to Rio more huge deals seemed likely. Might, for example, Vale, a Brazilian giant, bid for Xstrata, which has its headquarters in Switzerland, or could Xstrata bid for Anglo American, based in Britain?

Even as steel mills around the world fall silent, mining's rumour mill is cranking up again. Recently talk has centred on whether BHP will revive its failed bid for Rio. A spoiling Chinese investment, restrictive competition rules, Rio's debt burden and nervous regulators would make this difficult, though not impossible. Others moot that Xstrata and Anglo might join forces. In the biggest deal so far this year, Grupo Mexico this week offered $2.9 billion to regain control of Asarco, an American former subsidiary that is in Chapter 11 bankruptcy protection, topping rival bids from a hedge fund and Vedanta, India's biggest mining firm.

Although the hubbub about mergers sounds familiar, almost everything else has changed for the worse for the mining industry since those heady days. Back then takeovers were tempting not least because the industry was producing shovel-loads of cash and record valuations made purchases with shares alluring. Since then, however, commodity prices have thudded back to earth as the world economy has slumped and China's red-hot growth has cooled off.

The reversal of fortunes for miners has been staggering. Copper, which at its peak in July 2008 traded at nearly $9,000 a tonne, slumped to below $3,000 at the beginning of this year. Other metals have suffered a similar clobbering. And in late May the annual negotiations to fix a benchmark price for iron ore between its three biggest producers (Rio, BHP and Vale) resulted in Japan's steelmakers securing a price cut of 33% from last year.

That is not enough for China's steelmakers, which are abandoning the 40-year-old system for fixing the

price of iron ore and demanding an even fiercer cut. Some steel firms have also taken advantage of the low price to invest in iron-ore mines of their own.

Perhaps the best indication of the shifting balance of power within the industry is the endless upheaval at Rio. Chinalco, an aluminium company controlled by China's government, at first bought 9% of Rio to foil BHP's takeover bid, which steelmakers feared would leave a single firm with a near-monopoly in iron ore. BHP later abandoned the bid, at the height of the credit crunch, because of concerns about financing its target's vast debts. That crushing debt forced Rio to strike a further deal with Chinalco in February: in return for $19.5 billion the Chinese firm would receive shares in some of Rio's most profitable mines and convertible bonds that would allow it to raise its stake in the parent firm to 18%.

Uproar from shareholders, who were not given the chance to participate in the fund-raising, forced a renegotiation to limit Chinalco's stake. The wrangling may even cause the deal to collapse. It was struck when commodity prices were near their trough and looks too generous now that they have recovered somewhat (see Buttonwood).

Copper now trades at nearer $5,000 a tonne. The price of iron ore may be falling, but this year's drop in benchmark prices is the first since 2002. Even if China forces through a 40% cut, that will merely bring the price back to 2007 levels. Mining firms' shares, which plummeted in response to the credit crunch, have perked up a lot since the beginning of the year. Rio's have doubled in price since January and almost trebled from their low point late last year.

Light at the end of the shaft

The barren landscape of an open-cast mine is unlikely ground to nurture green shoots, but most analysts and industry insiders reckon that they can see plenty. Growth may have slowed in China and India, but the urbanisation that drives demand for copper and steel seems bound to resume before long. Meanwhile, many governments' attempts to revitalise their economies involve big infrastructure schemes that will require lots of metal. Senior executives at mining firms say that the rise of China and other developing countries means that the industry will not suffer a flashback to the 1980s and 1990s, when supply and demand remained in balance and commodity prices stayed low.

In part, that is because supply looks surprisingly tight. Mining companies dashed to raise production while prices were soaring. But rapidly rising earnings masked huge cost increases, particularly in fuel and wages. So when the fall in commodity prices hit earnings, mining firms responded with swift and deep cuts, closing mines and deferring new projects. Anglo has said that it will halve capital expenditure this year. McKinsey, a consultancy, expects that investment across the industry, at $62 billion, will be roughly half what it was last year and will fall again in 2010.

Cutting capital expenditure causes the pipeline of new projects to dry up faster. Lower exploration budgets mean that the big miners are less likely to unearth the "tier one" assets they crave—long-lived and low-cost deposits that are nearly certain to remain profitable no matter what happens in fickle commodity markets in the seven to ten years it takes to bring them into full production. And politics tends to compound these problems. Mining giants were enraged by forced renegotiations of existing deals last year by governments in such places as Congo, Guinea and Mongolia and are now warier of making big investments in risky parts of the world.

"Junior" miners, exploration companies that provide another source of future assets by taking on the risky discovery and early development of new mines, have been brought to a standstill by the dearth of debt to finance their activities. Perhaps wisely, big miners have eschewed using their precious resources to mop up medium-sized companies on the cheap, as some had predicted. Many of these firms, which tend not to produce ore as cheaply as the "majors", could go out of business.

The proportion of existing mines in flabby middle-age is growing as the rate of discovery of new tier-one assets has slowed over recent years. For example, BHP reckons that 35% of Chile's copper production capacity is from mines that are more than 50 years old and 70% from those more than 20 years old. As mines age, ore grades decline, since the best stuff is usually dug up first.

The big mining companies all believe that high commodity prices will return, although no one is prepared to say when. The easiest way of acquiring more tier-one assets to exploit during the next boom, while stripping out costs into the bargain, may be the revival of the mega-merger.

Gambling in Macau

Nightmare averted

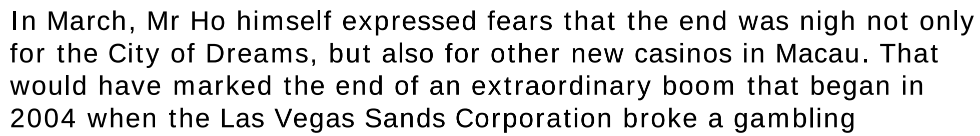
Jun 4th 2009 | MACAU
From The Economist print edition

A new casino heralds a return to health for the world's biggest gambling centre

Bloomberg News



IN WHAT only a few months ago would have seemed like an act of despair but now passes for revelry, James Packer and Lawrence Ho each grasped a guitar by the neck and smashed it into a pedestal. With the ritual, they formally unveiled their joint project, a new Hard Rock hotel and casino as well as various adjoining properties that are collectively known as the City of Dreams, the latest of Macau's many new developments. The opening on June 1st, attended by vast crowds, is the result of five years of planning and, at least as important, a willingness in recent months to press on when many believed Macau's prospects had collapsed.



In March, Mr Ho himself expressed fears that the end was nigh not only for the City of Dreams, but also for other new casinos in Macau. That would have marked the end of an extraordinary boom that began in 2004 when the Las Vegas Sands Corporation broke a gambling monopoly held for decades by Mr Ho's father, Stanley. It first built a casino called Sands, and then, in 2007, the larger Venetian. In 2006, a second Las Vegas operator, Wynn Resorts, also opened a ritzy development in Macau. The tiny Chinese territory quickly became their largest source of income and the biggest casino market in the world.

Growth began to taper off last June, and by the end of the year revenues were contracting. The troubled global economy was one factor; so was a decision by China to restrict visits by citizens from the mainland. The stockmarket took note. By February this year, investors were valuing firms with casinos in Macau at less than the book value of their assets, implying that they would be more valuable if liquidated than as going concerns (see chart). The collapse was particularly calamitous for Las Vegas Sands, which had financed its developments with a bit of equity and lots of debt, producing staggering wealth on paper at first and then widespread concerns over bankruptcy.

Responding to the change, numerous projects in Macau were put on hold, including four huge hotel-casinos being built by Las Vegas Sands next door to the City of Dreams. Messrs Ho and Packer may have persevered only because they were in too deep to turn back. The gambling licence alone for the City of Dreams project cost a record $900m, more than 40% of the $2.1 billion cost of the development.

Some sparkle restored
Leading Macau casino operators
Average ratio of market capitalisation to book value

Sources: Thomson Datastream; *The Economist*

Panic began to ebb in March as the contraction in revenues eased, as did concerns over bankruptcy. The price of the shares of Las Vegas Sands jumped sevenfold, and those of its rivals rose strongly too. Along with economic optimism, there is growing confidence that China's restrictions can be circumvented—by the rich through second passports and by the masses through package-tour operators.

At any rate, eager hordes queued for hours in the humid Macau heat for the opening of the City of Dreams. Despite the crowds at the new casino, the tables were still busy across the street at the Venetian and across town at the older Mr Ho's Grand Lisboa and at the MGM Mirage, in which his daughter Pansy owns a stake. Just how large the potential market for gambling might be in Macau no one knows, but the consensus view is, bigger. On June 3rd, Las Vegas Sands announced it was raising money to restart its unfinished projects.

Nonetheless, future developments may be different. The gaming tables may be busy again, but the flashy new venues have not been wholly successful. In the casinos of Las Vegas, only 26% of revenues come from gambling, the rest from ancillary activity including shows, dining and shopping, says Gabriel Chan, an analyst at Credit Suisse. But in Macau non-gambling revenues are trivial. As the casino firms have discovered to their delight, this is a place where making money comes first.

Succession at Samsung

Crowning success

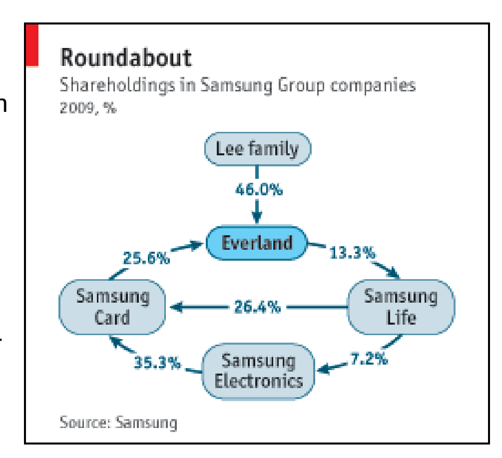
Jun 4th 2009 | SEOUL
From The Economist print edition

Samsung's heir apparent moves closer to his coronation

THE founding family of Samsung is royalty in South Korea, and the country's Supreme Court, it turns out, is not inclined to regicide. In late May it ruled that Everland, the privately held de facto holding company for the sprawling conglomerate, did nothing wrong when it sold convertible bonds in 1996 at a price prosecutors had contended was unreasonably low. As the bonds were sold for more than the face value attributed to them by the firm, the sale was legitimate, the court said, clearing Samsung's ailing 67-year-old patriarch, Lee Kun-hee, of charges of breach of trust.

Everland's bond sale ultimately had the effect of transferring control of the Samsung empire to Mr Lee's only son, Lee Jae-yong. The other shareholders in Everland, many of whom were closely connected to the Lee family, and all of whom had the option of buying some of the bonds, politely declined. That allowed the younger Mr Lee and his sisters to buy them all.

The Lee family now owns 46% of Everland, which in turn owns 13.3% of Samsung Life, South Korea's biggest life insurer. Samsung Life owns 7.2% of Samsung Electronics, the world's biggest electronics company, which owns 35.3% of Samsung Card, the country's biggest credit-card firm—which in turn owns 25.6% of Everland. The convoluted structure (see chart) helps to deter would-be raiders. Its confusing nature is the source of much criticism within South Korea, especially as other conglomerates such as LG Group have become more transparent. Samsung has promised to simplify things.



The Supreme Court's ruling on Everland's bond sale removed doubts about whether Lee Jae-yong would preside over the Samsung empire as his father once did. The *chaebol*, as South Koreans call their conglomerates, recorded sales of $174 billion in 2007, equivalent to 17% of the country's GDP that year. Samsung, under Lee Kun-hee's two-decade reign, focused on design, marketing, and research and development. A crucial element of its success was its ability to make decisions rapidly within a strict hierarchy.

The elder Mr Lee resigned last year from several jobs in the group after after being found guilty of tax evasion. But many South Koreans assume that he continues to exercise influence over the *chaebol*. Meanwhile his son has been travelling the world visiting Samsung offices and meeting with industry titans such as Sony's Sir Howard Stringer and Nintendo's Satoru Iwata. Other Samsung executives, including the chairman and the chief executive of Samsung Electronics, have accompanied the younger Mr Lee on his foreign travels.

An extrovert, unlike his reclusive father, the younger Mr Lee is referred to within the *chaebol* as "J.Y.". He speaks English and Japanese, having studied at Keio and Harvard universities. But a former Samsung executive says that some senior managers are sniffy about his youth (he is 40) and the failure of an e-commerce venture he managed. At any rate, there is turmoil within the group: many senior executives departed earlier this year amid cost cuts.

There is more trouble coming. By April 2012, under a law that prohibits finance companies' owning stakes of more than 5% in non-financial firms, Samsung Card will have to sell a 20.6% stake in Everland. Such a sale may trigger a restructuring that could generate big tax bills for Samsung and might threaten the Lee family's control of the group. There is speculation that Samsung Electronics will become a holding company for the group's manufacturing units and Samsung Life will control the group's financial companies. The complicated share sales are just beginning.

Advertisers go on the attack

Heated arguments

Jun 4th 2009 | NEW YORK
From The Economist print edition

Advertisements are getting fiercer—and so is the response

Dominos



Fanning the legal flames

EARLIER this year Subway, an international sandwich chain, sent a letter to Domino's, a pizza giant, demanding that it retract advertisements criticising Subway's sandwiches. In response, Domino's made another advertisement starring its chief executive (pictured). In front of the cameras, he took Subway's letter and thrust it into one of the very ovens in which Domino's makes its supposedly superior sandwiches. The letter burst into flames.

These are heated times: the number of comparative (or "attack") advertisements is growing, as companies battle for scarce consumer dollars amid the recession. They are cropping up in almost every product category, from travel to technology. Ads such as the one featuring the incinerated letter attract attention and project the firm on the offensive as both daring and popular. That in turn can boost sales.

But attack ads can backfire on the firms that make them, just as they sometimes do on pugnacious politicians. Particularly aggressive advertisements give the consumer the impression that the attacker is insecure and desperate for business, says Cindy Gallop, an advertising consultant. That hurts the company's image in the long term, even if the campaign boosts sales for a spell.

Attacks can also lead to counter-attacks. Campbell's, for example, launched a campaign last autumn for a new line of ready-made soups. These asserted that a rival, Progresso, used monosodium glutamate (MSG). Progresso responded with an ad saying that Campbell's also used MSG. In the end, many analysts say, both firms suffered.

Attack ads tend to go down badly in Europe and Asia. Some governments even ban them. In America, the most successful ones are usually those that do not name the target outright. Kodak, a camera company, contrasts its inkjet printers with unnamed "big printer companies" and refers people to a website to calculate how much money they have lost by owning another brand. Similarly, McDonald's does not name Starbucks in ads promoting its new lattes and cappuccinos. But on a website called Unsnobbycoffee.com it does assure customers that they will not need to learn a "second language" to order its drinks—an obvious reference to Starbucks' arcane terminology.

Naming names can also get companies into trouble of a sort that cannot be dispensed with in a pizza oven. The National Advertising Division of the Better Business Bureau, through which the industry polices itself, is busier than it has ever been. The number of complaints rose 35% last year, fuelled mostly by comparative advertising, and is likely to rise again this year. Others have resorted to the courts. Last month Sara Lee filed a lawsuit against Kraft for making false claims in a hot-dog advertisement. Lawyers for Pepsi and Coca-Cola will soon be sparring over claims made in attack ads. It would take a lot of persuasive advertising to make up for an embarrassing setback in court.

Renewable energy in Italy

Going with the wind

Jun 4th 2009 | ROME
From The Economist print edition

Italy tries to wean itself off imported energy—but it has a long way to go

TOPPING league tables is often cause for congratulations. For Italy, which relies on others to provide 86% of its energy needs, leaving it more dependent on imports than any other member of the G8 club of rich countries, coming first is a reason for concern. So when the G8's energy ministers met in Rome last month, it was little surprise that Claudio Scajola, Italy's minister of economic development, was one of the main cheerleaders for investments in clean, indigenous power sources.

Italy's own supplies of natural gas have fallen sharply over the past decade and covered only around 12% of consumption last year, and the 5.2m tonnes of crude pumped from local oilfields satisfied just 7% of Italy's needs. Hydro-electricity or "white coal" from dams (mostly in the Alps) used to be the biggest domestic source of energy. But for many years it has been matched or exceeded by imports of electricity from Italy's neighbours to the north. In a referendum in 1987 Italians voted to close down the three nuclear power stations then in operation.

Faced with such dependence on imports, Italy has been making an effort to exploit the renewable sources found within its borders. It has long been Europe's leader in geothermal power, using steam produced naturally by hot rocks several kilometres below the ground to generate electricity at Larderello in Tuscany. Larderello's turbines produced 5.5 terawatt hours (TWh) last year, and Unione Petrolifera, the oil companies' association and the only Italian body making regular energy forecasts, believes that this could increase to 7.5TWh by 2020. Even so, it will make only a small contribution to total demand, which last year amounted to 337.6TWh.

Prospects for wind power are much better. Ten years ago wind's part in satisfying power demand was tiny, but last year Italy's turbines produced more electricity than its geothermal plants. According to Unione Petrolifera, wind farms could be generating 20.5TWh by 2020, about three times what they produced last year. And the association forecasts that the amount of electricity produced by biomass plants could almost treble to 11TWh over the same period.

Corbis



Larderello's field of steams

Italy may not have much of its own gas and oil, but sun is rarely in short supply and this may offer the brightest long-term prospects. At the end of this year Enel, Italy's state-controlled power company, will bring into service a five-megawatt solar-thermal plant that uses innovative technology. This is an area in which Enel has a record, having designed and built the first concentrating solar-thermal plant connected to a national grid over 30 years ago. It also completed Italy's largest photovoltaic installation at Serre Persano near Salerno in 1999. Spain and Germany have recently trimmed their subsidies for solar power, leaving Italy's among the most generous in the world.

The subsidies are so lavish because renewable energy is expensive and would not be competitive without them. Nomisma Energia, a think-tank, estimates that power from photovoltaic cells costs €0.40 ($0.56) per kilowatt hour (kWh). Even more established renewable sources such as wind (€0.07/kWh) and biomass (€0.08/kWh) produce electricity that costs more than that derived from coal (€0.05/kWh with coal at $60 per tonne) or gas (€0.06/kWh with oil at $55 a barrel). The higher costs are borne by electricity users in Italy, where tariffs are above those in other European countries, thanks mainly to the use of natural gas for power production but also to weak competition. Economies of scale and technological improvements mean that the price of wind power is falling, however, and it could close the gap with fossil-fuel generation, especially if Europe's carbon price increases.

But Davide Tabarelli, chairman of Nomisma Energia, says forecasts of a boom in wind and solar are

optimistic and that Italy will not meet the goal set by the European Union that renewables should provide 12% of energy consumption by 2010. Umberto Quadrino, the boss of Edison, Italy's second-biggest utility, agrees. He thinks Italy will have to reverse its ban on nuclear power. In the meantime, Enel is investing in French nuclear power-stations, with a view to exporting the power to Italy. It also owns reactors in Slovakia.

The government, too, hopes to revive nuclear power. But Italy is held back by a leaden bureaucracy. The government says it will cut red tape to get new nuclear stations built. Reactors will face far more public resistance than wind farms and solar plants, however. For the moment, Italy's leading position in import dependency looks secure.

A Hippocratic oath for managers

Forswearing greed

Jun 4th 2009 | BOSTON
From The Economist print edition

MBA students lead a campaign to turn management into a formal profession

Illustration by Peter Schrank



THEY did not actually say that "greed is not good", but the oath taken on June 3rd by more than 400 students graduating from Harvard Business School amounted to much the same thing. At an unofficial ceremony the day before they received their MBAs, the students promised they would, among other things, "serve the greater good", "act with the utmost integrity" and guard against "decisions and behaviour that advance my own narrow ambitions, but harm the enterprise and the societies it serves."

You may snigger. Yet with around half of this year's graduating class taking the pledge, Max Anderson, an MBA student himself, saw it as a triumph for a campaign that he launched only last month. He had hoped to get 100 of his classmates to sign up at best. The economic crisis seems to have been behind the rush. Students want to distance themselves from earlier generations of MBAs, whose wonky moral compasses were seen to have contributed to the turmoil, especially on Wall Street, the biggest employer of Harvard MBAs in recent years.

It may seem ridiculous that students who have spent over $100,000 on two years of study in an effort to get very rich are now so keen to rebrand themselves as virtuous. Such naivety, if that is what it is, will not survive long beyond the university's walls. But the students may just be putting their marketing lessons into practice. They are entering the worst job market for graduating MBAs in decades. Many see non-profit and government jobs as their best bet. So embracing the "values agenda" could prove useful.

The popularity of the oath might also reflect a broader change, with huge implications not just for business education but for management as a whole, says Rakesh Khurana, a professor at Harvard Business School. Mr Khurana and a colleague, Nitin Nohria, have been among the few faculty members to encourage Mr Anderson's campaign. "Students are saying they want business education to operate in a different way and that they want higher expectations from faculty," he says. "Just telling them to maximise shareholder value does not satisfy them any more. They want to get away from the cartoon image of business that they are taught in the classroom, to get useful practical advice on how to lead a firm in the 21st century."

The student oath is part of a larger effort to turn management from a trade into a profession—a crusade that Messrs Khurana and Nohria proposed in a much-discussed article last October in the *Harvard Business Review*. When the business school was founded in 1908, the goal was to create something along the lines of Harvard's medical and law schools. But the mission was soon abandoned, not least

because there was no agreement about how managers should behave.

A set of shared values is one of the defining features of a profession. Lawyers and doctors have their own codes, but business-school professors tend to embrace Milton Friedman's claim that the only responsibility of business is to maximise profits. They have told their students that as managers their sole mission should be increasing shareholder value.

One of the two main criticisms of the oath and of the whole idea of turning management into a profession, particularly in business-school faculties, is that it is either unnecessary or actively harmful. Crimes such as embezzlement are punishable by law. Shareholders who feel that managers have not acted in their best interests can sue them. Meanwhile, by promising to "safeguard the interests" of colleagues, customers, and society, are the future captains of industry simply short-changing their shareholders?

Defenders of the oath reply that the goal of maximising shareholder value has become a justification for short-termism and, in particular, rapid personal enrichment. They are concerned about managers doing things that drive up the share price quickly at the expense of a firm's lasting health. Management gurus such as Jim "Good to Great" Collins argue that shareholders are likely to earn better returns in the long run if firms are led by managers with integrity and a desire to play a constructive role in society.

The second complaint is that the oath's fine words are toothless. There are few clear-cut injunctions along the lines of the Hippocratic oath for doctors, which commands physicians: "First, do no harm." It is hard to define, let alone measure, managing "in good faith" or acting "in an ethical manner". But the oath-taking MBAs' pledges to avoid corruption, to represent the performance and risks of their firm accurately, to educate themselves continuously and to allow their peers to hold them to account are all meaningful and can be monitored, says Mr Khurana.

The campaign for an MBA oath dates back to 2004, when Ángel Cabrera, president of Thunderbird, a business school in Arizona, suggested that his students write one. It soon became an official part of the school's MBA programme. The oath, Mr Cabrera says, has been "a phenomenal change-management tool". Students constantly use it to question things they are taught, he says, citing those who took a faculty member to task for breezily asserting that paying bribes is a normal part of doing business in India.

But it is what happens when the student enters the real world that counts. Mr Cabrera says he has anecdotal evidence of graduates who have challenged unethical behaviour successfully in their new jobs. He is also working with Messrs Khurana and Nohria, the Aspen Institute, a think-tank, and the World Economic Forum, among others, to try to work out a way to add teeth to the oath. They have discussed ideas such as trying to keep managers apprised of the latest thinking in their field, developing a professional licence for them and setting up an organisation to punish unprofessional behaviour.

Even these cheerleaders admit there are differences between practising management and, say, medicine. They concede that no self-regulating professional body for managers could possibly monopolise entry to the profession, given the long list of entrepreneurs such as Bill Gates who have created oodles of shareholder value without any formal training. Hardly any entrepreneurs have MBAs, Mr Khurana admits. But he believes a professional licence could still be a useful qualification even if it was not a requirement for all managers.

As for punishing unprofessional behaviour, Mr Khurana is inspired by the internet rather than by a closed council of grandees. From open-source software to eBay and Wikipedia, new systems of self-regulation are emerging based on openness, constant feedback and the wisdom of crowds. These could be adapted, he thinks, to provide effective scrutiny of managers.

Don Tapscott, co-author of "Wikinomics" and "The Naked Corporation", says that in today's increasingly "transparent world, where every stakeholder has radar, accountability becomes a requirement for trust. In fact, for those who embrace it as a value, it is a powerful force for business success." In addition, the financial crisis and the recession will doubtless spark more scrutiny of managers. So embracing a more sympathetic agenda may not be so naïve after all.

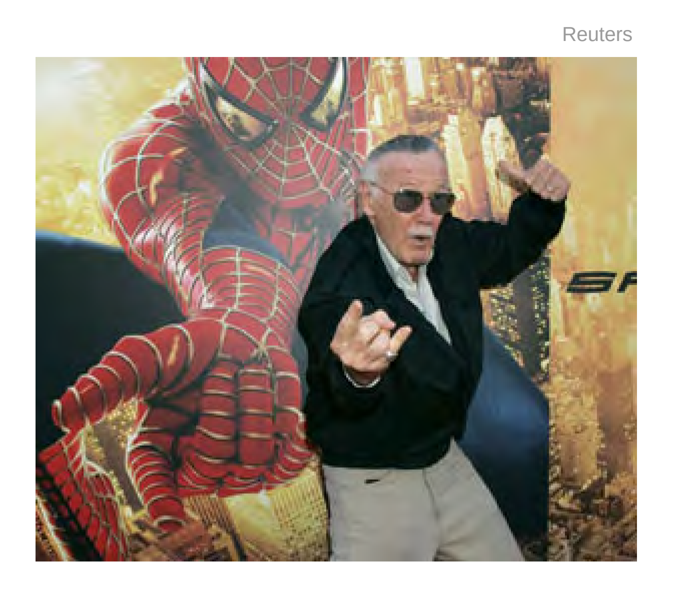
Face value

Ka-pow!

Jun 4th 2009
From The Economist print edition

Stan Lee, who inadvertently shaped contemporary film, is now trying to do so on purpose

Reuters



LITTLE is certain in the film business these days, thanks to piracy and the recession. But here is a fairly safe prediction. Next year one of the ten bestselling films at the American box office will be based on a comic-book superhero created by Stan Lee. There will be another one, perhaps two, the following year. Another prediction: not one of them will win, or even be nominated for, an Academy Award for best film.

Mr Lee largely created the modern cartoon superhero, and, by extension, the modern blockbuster film. During a three-decade spell as editor-in-chief of Marvel Comics he worked with artists such as Steve Ditko and Jack Kirby to invent a pantheon of heroic characters. One especially creative burst, in the early 1960s, produced Spider Man, the Incredible Hulk, the Fantastic Four, X-Men, Thor and Iron Man. Mr Lee and his collaborators departed from previous comic-book convention by endowing their heroes with human flaws and setting the stories in real places.

For many years his creations languished. Children gradually lost the habit of reading comics and the market fragmented into increasingly obscure and often disturbing niches. Several attempts to create films or television series failed, in part because the comic-book companies were worried about tainting their property. Screenwriters spent fully 15 years worrying away at a Spider Man storyline. In the mid-1990s Marvel declared bankruptcy. Then the special-effects engineers finally caught up with the cartoonists' visions. As Mr Lee puts it, "there is now nothing you can imagine that cannot be shown".

As a result, cinema screens are thick with superheroes. In the 1980s just two films based on comic-book heroes made it into the annual lists of the top ten live-action films at the American box office. There were three in the 1990s. Since 2000 there have been ten. Seven of these are based on characters created wholly or in part by Mr Lee. So far this decade Americans have paid $2.7 billion to watch films based on his creations. (To get a rough, if conservative, sense of total revenues from domestic and overseas cinemas, DVDs, television and other "ancillaries", multiply that number by five.) Mr Lee's characters dominate screens over the summer just as reliably as the director Steven Spielberg did in the late 1970s and early 1980s, or as the actors Kevin Costner and Arnold Schwarzenegger did in the early 1990s.

Indeed, the cartoon superhero has partly displaced the movie star. Studio executives have learnt that it is possible to cast little-known actors in key roles, meaning that, at least to begin with, they do not have to pay them all that much. Those actors then become famous. But they are not stars in the usual sense of being able virtually to guarantee the success of a film simply by appearing in it. Between starring in the most popular non-animated film of 2004 and the most popular film of 2007, for example, Tobey

Maguire appeared in “The Good German”. Despite having a proven director and two other stars the film collapsed. It earned just $1.3m in American cinemas, or less than 1% of what “Spider Man 3” earned in its opening weekend. Apparently, the star of “Spider Man” is not Mr Maguire but Spider Man.

So dependable are the returns from superhero franchise films, provided that you are prepared to pay at least $125m to make them and not much less to advertise them, that the studios are in danger of running out of well-known characters. So Mr Lee, now in his mid-80s, has set up Purveyors of Wonder (POW!), his second firm dedicated to creating storylines for films. (His first, Stan Lee Media, declared bankruptcy in 2001 amid the dotcom bust.) The outfit has a first-look deal with Disney, a company that knows a thing or two about creating mythical characters. Last month the studio attached two veteran writers to one of Mr Lee’s projects, a supernatural police film. He is happily churning out concepts, from a god who returns to earth (“Blaze”) to an ecological superhero (“The Retaliator”).

A problem of character

But there is a hitch. Mr Lee’s most celebrated creations appeared at a time when comic books were widely read. The heroes were honed over many years by other writers and artists. As a result a great many people of diverse ages are familiar with them and will happily spend $10 to sit in a cool cinema and renew their acquaintance. Blockbuster audiences are built not of enthusiastic fans—there are never enough—but of people who are vaguely aware of a character or a story and want to see what a studio does with it.

These days it is extremely difficult to propel new characters or stories into broad public consciousness, and therefore hard to mobilise a mass audience for films based on them. Take Alan Moore, a revered writer of comic books. His works have inspired five ambitious films (the most recent is “Watchmen”), none of them hugely successful. And what goes for comic books also goes for television shows, computer games and other fodder for summer blockbusters. As audiences fragment, there is simply less mass content to throw into the Hollywood recycling machine.

It may be that a more modest approach works better. Next month another creation of Mr Lee’s will be unveiled at Comic-con, a huge San Diego convention that has become an important marketing platform for films. “Time Jumper”, an animated comic about a boy who can travel in time using his mobile phone, will be released in stages on the internet and mobile phones, free of charge. This is a relatively cheap way of testing an audience’s response to a new character. If it is hard to ram a new tale into public consciousness, it might just be possible to sneak it in.

The experiment may not succeed. The failure rate in the media business is high even for tested approaches. But it is likely that somebody will eventually make a similar strategy work. It would not be the first time, after all, that Mr Lee pioneers a concept that is later adapted by others to the studios’ profit.



Correction: ACS and Iberdrola

Jun 4th 2009
From The Economist print edition

In last week's issue ("Tilting at windmills"), we misspelled the name of Ignacio Sánchez Galán, chief executive of Iberdrola. Apologies. This was corrected online.

The bankruptcy of General Motors

A giant falls

Jun 4th 2009
From The Economist print edition

The collapse of General Motors into bankruptcy is only the latest chapter in a long story of mismanagement and decline

Alamy



SINCE the start of the year it had seemed probable, and for several weeks inevitable. General Motors' application on June 1st for Chapter 11 protection from its creditors, triggering the biggest industrial bankruptcy in history, was nonetheless a momentous event.

The filings lodged at 8am with a court in Manhattan were testimony to the size and complexity of the 101-year-old company and to the scale of the problems that had finally overwhelmed it. Until 2008, when it was overtaken by Toyota, GM was the world's biggest carmaker, producing well over 9m cars and trucks a year in 34 different countries. It has 463 subsidiaries and employs 234,500 people, 91,000 of them in America, where it also provides health-care and pension benefits for 493,000 retired workers. In America alone, it spends $50 billion a year buying parts and services from a network of 11,500 vendors and pays $476m in salaries each month.

Amid the huge numbers, one comparison stood out: against assets of $82.2 billion, GM has liabilities of $172 billion. A year ago, realising that GM was running out of cash, Fritz Henderson, then the chief financial officer, sought to raise $3 billion through a sale of bonds or shares. When it became clear after the collapse of Lehman Brothers in September that there was no chance of success, he attempted to sell some non-core assets. That too failed. Mr Henderson, who became chief executive when Rick Wagoner was ousted in March, says in an affidavit that no one expressed any interest in lending to GM or buying its assets at a price that would have kept it operating. (This week GM managed to find a Chinese buyer for its Hummer SUV brand, but the price is thought to be far below GM's $500m valuation.) In November GM's share price fell to $3. The only route still open led to the federal government.

An autumn's warmth does not endure

Yet as recently as the autumn of 2007 Mr Wagoner's stock had been high. There was hope both inside GM and among industry commentators that after three years of huge losses and painful downsizing the carmaker was at last on the road to viability. The chief cause of optimism was a deal with the United Auto Workers (UAW) union to transfer health-care liabilities to a union-run trust fund and to reduce the pay and benefits of newly hired workers to rates similar to those at the "transplant" factories of rivals

such as Toyota and Honda. That October the price of GM shares rose to nearly $43, the highest for more than three years.

Better still, independent surveys were reporting that many of GM's factories had closed the efficiency gap with Toyota. And guided by Bob Lutz, a quintessential "car guy" whom Mr Wagoner had appointed in 2001 to oversee product development, GM was also making some pretty good cars, among them the fast-selling Buick Enclave and the award-winning Chevrolet Malibu and Cadillac CTS. The Chevrolet Volt, a revolutionary electric car with a "range-extending" internal-combustion engine, due to be launched in 2010, made Toyota's Prius hybrid look a bit dated. In late 2007, after years of decline in North America and despite cuts in dealer incentives and sales to car-rental firms, GM's market share was edging up.

The final element of this cheery prognosis was GM's success outside North America, especially in fast-growing emerging markets. For all his sometimes plodding approach at home, Mr Wagoner had proved surprisingly fleet of foot abroad, where GM was making 65% of its sales (see chart 1). GM had long been big in Latin America, but in China and Russia it was reaping the rewards from being among the first foreign firms to set up factories. In China, with its joint-venture partner, SAIC, GM now has 12% of a market that will soon surpass America's.

But, as at other times in GM's recent troubled history, the promise of that autumn turned out to be false. By the end of 2007, the weakness of the American housing market was infecting sales of cars. Falling house prices caused many people to put off getting a new car, while willing buyers with below-average credit ratings were finding it increasingly hard to finance prospective purchases, new or used.



On top of that, petrol prices nearly doubled. With a gallon costing $4, demand for the big pickups and SUVs that provided most of Detroit's profits evaporated. In the scramble to swap gas-guzzlers for smaller vehicles, residual values collapsed, leaving GM's finance arm with huge losses on cars returned after lease. After Lehman failed, car markets were clobbered around the world, but America's was hardest hit. Sales of cars and light trucks in December 2008 were 35.5% lower than the year before. After four years of restructuring efforts during which it had lost more than $80 billion, GM was too enfeebled to stagger on.

Where did it all go wrong?

In some ways, GM's problems can be traced to its origins a century ago. Between 1908 and 1920, its founder, Billy Durant, bought 39 companies including Cadillac, Pontiac, Oldsmobile, Chevrolet and several parts-makers, but ran them as separate entities. In 1923, after narrowly avoiding bankruptcy, Alfred Sloan, a ball-bearing magnate, took over the running of GM. Sloan imposed tight financial controls and brought order to the chaotic model line-up. Yet even as GM expanded abroad, establishing factories in 15 countries and buying Vauxhall in Britain and Opel in Germany, Sloan made little attempt to forge a unified company at home. The different divisions were run almost as independent fiefs that fought among themselves and against any interference from the centre.

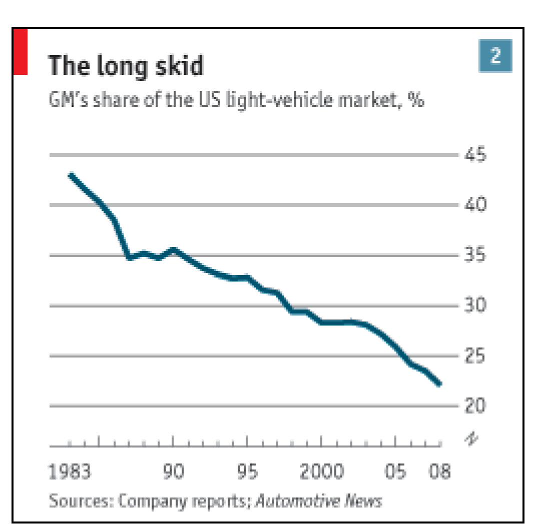
Still, GM was doing well enough after the second world war to accede to the deals with the UAW that, much later, were to become an insupportable burden. It agreed in 1948 to annual cost-of-living pay increases and in 1950 to free health-care coverage for life and generous pensions. With hardly any foreign competition in America and its main Detroit rivals, Chrysler and Ford, forced to offer their workers similarly gold-plated benefits, GM's sheer scale masked any inefficiencies. By the early 1960s, with its market share at over 50%, its bosses were more worried about avoiding antitrust action and a possible break-up than reducing costs or improving GM's cumbersome, committee-bound way of making decisions.

Only in the 1970s, after the first oil shock, did faults start to become visible. The finned and chromed V8-powered monsters beloved of Americans were replaced by dumpy, front-wheel-drive boxes designed to meet new rules (known as CAFE standards) limiting the average fuel economy of carmakers' fleets and to compete with Japanese imports. As well as being dull to look at, the new cars were less reliable than equivalent Japanese models.

By the early 1980s it had begun to dawn on GM that the Japanese could not only make better cars but also do so far more efficiently. A joint venture with Toyota to manufacture cars in California was an eye-opener. It convinced GM's management that "lean" manufacturing was of the highest importance. Unfortunately, that meant still less attention being paid to the quality of the cars GM was turning out. Most were indistinguishable, badge-engineered nonentities. As the appeal of its products sank, so did the prices GM could ask. New ways had to be found to cut costs further, making the cars still less attractive to buyers.

Respite came with the decline in oil prices from the late 1980s and an anomaly of the CAFE regulations that allowed passenger vehicles classed as light trucks a much slacker standard. Rather than invest in low-margin cars, GM and the two other Detroit firms concentrated on building profitable pickups and SUVs. After recovering from losses of over $30 billion in the early 1990s, the company was in trouble again at the beginning of the next decade. Its market share had been steadily falling (see chart 2), while higher interest rates and an economic downturn led to a pensions and benefits crisis. However, thanks to Mr Wagoner's first efforts at restructuring, by 2003 GM's market share in America had stabilised at 28% and it was making profits of nearly $4 billion.

It could not last. Every year the cost of retired workers' health care diverted billions of dollars from developing new models and added $1,400 to the cost of each car compared with those made in Asian and European transplants. Mr Wagoner had little choice but to generate cash to feed the beast. That meant keeping production high and sustaining sales with costly dealer incentives, cheap credit and heavily discounted fleet sales. That in turn hammered residual values and damaged GM's brands. It is easy to say with hindsight that Mr Wagoner should have done more to prevent the slide. But had a more confrontational manager forced an earlier showdown with the union, downsized faster or tried to hack back a sprawling dealer network protected by state franchise laws, he might merely have hastened bankruptcy. It may be fairer to say that, dealt a rotten hand, Mr Wagoner tried to do many of the right things, but ran out of luck and time.



The car-industry task-force appointed by Barack Obama to save GM and Chrysler quickly concluded that neither could be viable without the pressure of bankruptcy to force stakeholders to renounce most of their claims. But it also recognised that a long period in Chapter 11 could be fatal. Not many people want to buy something as expensive and durable as a car from a company that may not be around next year. The task-force is therefore forcing through "quick rinse" or "pre-packaged" bankruptcies to separate the good assets from bad assets and liabilities speedily. The idea is to allow a new, cleansed company to emerge in a matter of weeks (as with Chrysler) or at most a few months (GM).

New beginnings?

At Chrysler, everything seems to be going according to plan. Fiat, which will take over the running of the business, will have 20% of the new company, rising to 35% on reaching certain goals. A union trust will have 55% and the government 10%. This week the judge handling the bankruptcy, Arthur Gonzalez, cleared the way for a spruced-up Chrysler to exit the court soon after the good assets are transferred to Fiat. An appeal by some Chrysler creditors may delay this by a few days.

Although GM's bankruptcy will be more complicated and drawn out, a new entity should emerge before September. The government, which is putting $30 billion into GM on top of the $20 billion it has already handed over, will receive 60.8% of the stock. The Canadian government, which is providing $9.5 billion, will get 11.7%. The UAW's trust will have 17.5% and the bondholders 10%. Despite the size of its stake, the government is adamant that it is a reluctant shareholder and will stay out of managing the business. It hopes that within 18 months GM might become a publicly traded company again.

The new GM will shed about 14 factories, 2,400 dealers, 21,000 hourly-paid jobs, 8,000 white-collar jobs and, crucially, $79 billion in debt. The aim is for the company in North America to be able to break even in a domestic market with annual sales of 10m vehicles. Today's extremely depressed market is running at about 9.5m. A recovery is forecast to start

Alamy

next year, but it may take time for sales to return to the 15m-17m seen between 1995 and 2007.



Happy days

No one believes that GM will return to its former glory. The question is whether the new, smaller GM can succeed on its own more modest terms. Without doubt, its structural costs will be much lower: $23.2 billion in 2010, against $30.8 billion in 2008. With fewer brands and dealers it will be able to focus marketing and advertising more effectively. GM also retains the design and engineering resources to develop competitive cars, although the good ones are still outnumbered by the dross. The new-model pipeline has enough in it to keep buyers interested. Its successful operations in China should continue to grow rapidly with the market there.

But several doubts remain. The first is that although Mr Wagoner has gone, there has been no cull of GM's leaders—who helped to get it into this mess. Mr Henderson is an experienced financial manager, but GM may need someone more inspiring to shake it out of its consensual, bureaucratic ways. Senior members of the auto task-force found Chrysler to be better run in some ways than GM.

Second, although GM's cost base will be more in line with that of its transplant rivals, it will still be handing about $600m a year to the UAW in the form of dividends on preferred stock to comply with the revised health-care agreement. On the rather rosy assumption that GM sells 2m vehicles a year in America, each one will have to carry $300 in health-care costs. Unresolved questions remain about the firm's pension fund, which at the end of 2008 was underfunded by about $13 billion.

Third, GM's market-share forecasts still look optimistic. It expects its share to stabilise at around 18.5%, only one percentage point below its figure for this year. But GM will have fewer brands and dealers, and rivals will be eager to exploit its withdrawal from parts of the market. Volkswagen, for example, is planning an assault. It is building a new factory in America with the capacity to turn out 250,000 cars a year and is aiming to triple its market share from 2% to 6% by 2018, with sales of 800,000.

Fourth, there is a danger that with the government as its biggest shareholder, GM will be pushed into making the kind of cars—smaller and more fuel-efficient—that Mr Obama approves of rather than the sort Americans want to buy. Although new CAFE standards should encourage the shift away from the thirstiest models, trucks still get off too lightly and the administration seems to have no appetite for the one thing that would radically change buying habits: a big increase in petrol taxes or a more widely applied tax on carbon.

Finally, as Max Warburton, an analyst with Bernstein Research, notes, GM has suffered as much from a price problem as from a cost problem. GM's vehicles sell for between $3,000 and $10,000 less than Toyotas of the same size. "This is a brand issue", says Mr Warburton, "and the brands won't be fixed by Chapter 11." Most younger buyers have simply never considered a GM car. The new Malibu medium-sized saloon is just as good as the Toyota Camry, Honda Accord and Nissan Altima, yet is still shunned by many drivers because it is a Chevy. If anything, bankruptcy and subsidies from the taxpayer will tarnish GM's brands even more. The few Americans who buy cars for patriotic reasons are more likely to head for a Ford showroom to reward the company for its dogged fight to avoid the fate of its Detroit rivals.

When GM emerges from bankruptcy, it will have shed some of its burdens, but the damage done by decades of mismanagement and union intransigence will still weigh heavily. The new GM will not be quite as new as either it or the government would like Americans to believe.

Saving GM Europe

Hope for Opel

Jun 4th 2009
From The Economist print edition

A Canadian-led consortium agrees to buy GM's European subsidiary

THE drama of GM was not confined to America. In Berlin the German government and the management of GM Europe strove to save Opel and Vauxhall from being sucked into the bankruptcy of the parent company.

In the small hours of May 28th negotiations at Angela Merkel's chancellery involving her coalition government, the American Treasury, GM and two prospective bidders for the cash-strapped subsidiary (Fiat and Magna International, a Canadian auto-parts firm) broke down. GM had agreed to the assets of Opel and Vauxhall being placed in a trust to shield them from the firm's American creditors and had signalled its willingness to take a minority stake in a restructured business, but it confounded everybody by demanding €300m ($430m) on top of the €1.5 billion in bridging loans promised by the Germans.

Unless Fiat or Magna was prepared to come up with the money within 24 hours, Opel and Vauxhall would join their parent in insolvency. Fiat's chief executive, Sergio Marchionne, declined. Magna, however, agreed to the demand, leaving it as the sole bidder when negotiations resumed on May 29th.

The deal pleased the Social Democrats in Germany's coalition, their union friends and the premiers of the four states where Opel has factories. They believe that Magna's plans are likelier than Fiat's to guarantee the 25,000 Opel jobs in Germany (they are less bothered about Opel jobs elsewhere in Europe or Vauxhall in Britain). Others, including Mrs Merkel, a Christian Democrat, are doing their best to hide their scepticism.

Magna intends to use Opel's plants to build vehicles for other carmakers (it already does this on a small scale in Austria). It also hopes to make a play in the Russian car market with the help of GAZ, an automotive company owned by Oleg Deripaska, a metals tycoon. Magna expects to make a formal bid in the autumn. It will hold 20% of the company. Its financing partner, Sberbank, Russia's biggest retail bank, will have 35% and employees 10%. GM will keep 35%.

As for the thwarted Mr Marchionne, he is looking for other ways to add scale to the Fiat-Chrysler alliance. This week Thierry Peugeot, the chairman of PSA Peugeot-Citroën, Europe's second-biggest carmaker, hinted that he might be willing to join such a combination.

Central banks' exit strategies

This way out

Jun 4th 2009 | WASHINGTON, DC
From The Economist print edition

The Federal Reserve weighs plans to unwind its unconventional stimulus

Illustration by S. Kambayashi



A FIREFIGHTER'S first rule of survival is "know your way out". The same can be said of financial firefighting. Though it has no intention of exiting soon, the Federal Reserve is planning its path out from the extraordinary measures it has taken to free credit markets and boost demand.

With other central banks, the Fed is under growing pressure to explain its exit strategy in order to allay fears that its policies will produce inflation. On June 2nd Angela Merkel, the German chancellor, launched an astonishing attack on the Fed, the Bank of England and the European Central Bank (ECB) for their loose monetary policies. Mrs Merkel's outburst, which trampled on a German political tradition of not commenting on the actions of independent central banks, makes life awkward for the ECB, which was due on June 4th to announce details of a plan to buy €60 billion ($86 billion) of covered bonds. But her most pointed barbs were aimed elsewhere. "I am very sceptical about the extent of the Fed's actions and the way the Bank of England has carved its own little line in Europe," she said.

The Fed did most to unsettle Mrs Merkel and its other critics when it said on March 18th that it would buy $300 billion in Treasuries by September, plus $200 billion in bonds issued by Fannie Mae and Freddie Mac, America's two housing-finance giants, as well as $1.25 trillion of their mortgage-backed securities by December. The purchases are meant to drive down long-term interest rates, and at first they did. Ten-year Treasury yields fell to 2.5% from 3%. But by June 3rd they were back up to 3.5%.

Some of this increase is indeed down to higher inflationary expectations. Inflation-protected bonds now imply future inflation of 2%, up from close to zero late last year, according to Barclays. On June 3rd Ben Bernanke, the Fed chairman, put some of the increase in yields down to concern about surging government borrowing.

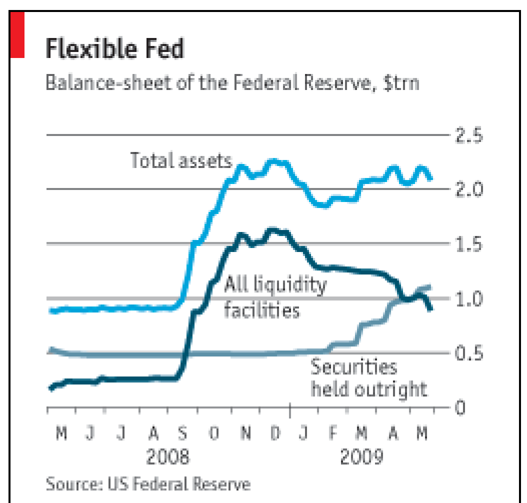
But the Fed attributes most of the increase in yields to investors abandoning the safety of Treasuries for riskier investments as economic optimism rises. By itself, that is not a reason for the Fed to step up bond purchases, an option it has kept open. "The aim of the programme was mostly to bring down mortgage rates and generate another wave of refinancing, which it did," says William Dudley, president of the

Federal Reserve Bank of New York*. “That said, if the choice were to keep mortgage rates lower for longer or have a recovery, I’d pick the latter.” But there may be a case for the Fed to schedule extra, smaller purchases to avoid a sharp rise in yields when the current programme ends.

The Fed has financed its loans and securities purchases in the past year by creating new reserves for the banking system (in effect, printing money). Reserves have rocketed, to almost $900 billion now from an average of $11 billion in the year to September. Many analysts see these excess reserves as a pool of inflationary fuel just waiting for the match of credit demand.

The Fed considers this analysis flawed. It sees excess reserves as a problem only if they overwhelm its ability to raise the federal funds rate when need arises. That risk has shrunk since the Fed received authority in September to pay interest on reserves, as other major central banks have long been able to. That in theory should put a floor under the Fed funds rate. Banks should not lend excess reserves at, say, 1%, if they can earn 2% from the Fed.

That said, the Fed cannot be certain that paying interest will work as planned, so it would also like to be able to soak up some reserves. Some were created by the Fed’s myriad loans to banks, issuers of commercial paper and others to unfreeze the credit markets. Those liquidity facilities charge borrowers a penalty rate which makes them less attractive as private credit returns. That is now happening, and the liquidity facilities have begun to shrink (see chart). The Fed could hurry that process up by raising the penalties.



Managing its growing securities holdings will be tougher. The Fed could simply sell them but that would create waves. “The day you sell will be a big market event,” says Mr Dudley. “Historically, the Fed has been buy and hold.” Since the average maturity of the Fed’s bond holdings is five to ten years, the Fed will have to find a way to mop up, or “sterilise”, the related bank reserves for a long time. The usual approach is to conduct reverse-repurchase agreements, borrowing from one of its 16 primary dealers for short periods of time in order to finance the assets on its balance-sheet. But dealers may not have the necessary capacity for the task.

The Fed is currently absorbing reserves by having the Treasury issue more debt than it needs. When dealers purchase the debt, cash shifts from their reserves accounts to Treasury deposits at the Fed, where they remain, unspent. But the Treasury itself is constrained by the debt ceiling set by Congress, and an independent central bank should not rely on the fiscal authority for one of its tools.

A better solution would be for the Fed to issue its own bills, as other central banks do. It could rely on a wider variety of investors, not just primary dealers, to manage its balance-sheet. It would restrict the maturity of such bills to less than 30 days to avoid interfering with Treasury’s longer-dated issuance. The hitch is that Congress has to authorise it. It may come to that. “As long as people are worried about whether we have adequate tools, it makes sense for us to get more tools even if we don’t think we need them,” says Mr Dudley.

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* Excerpts from the interview can be read online at www.economist.com/dudley

Buttonwood

Raw deal

Jun 4th 2009
From The Economist print edition

Higher commodity prices may not be good news

Illustration by S. Kambayashi



THE supercycle is back. Raw material prices rose by nearly 20% in May, according to the S&P/Goldman Sachs Commodity Index, one of the biggest monthly increases on record. The surge has been widespread, with everything from copper to cotton moving higher. Meanwhile the Baltic Dry Index, an indicator of shipping activity, has risen more than sixfold from its December low.

It is not difficult to paint this rebound as a sign of economic recovery. The bullish story runs as follows. The collapse of Lehman Brothers was an enormous shock to global business. Firms reacted by cancelling orders and slashing inventories. That was why the numbers for industrial production looked so cataclysmic earlier this year. But the recession is not turning out to be as bad as executives feared. Companies are resuming production (the British arm of Honda is a case in point) and are building up their inventories once again. The rise in commodity prices is an early indicator of this improving sentiment.

Julian Jessop of Capital Economics, a consultancy, points out that the rally has been led by the industrial metals, like lead and nickel, which are most sensitive to economic activity, while the precious metals (gold and silver) have lagged well behind. But are commodity prices a leading indicator, or merely a coincident one? Businesses may be stockpiling raw materials because they have been convinced by the data that recovery is on the way. If the data falter, commodities will fall as quickly as they have risen.

Another point of view is that higher commodity prices may not signal recovery so much as strangle it at birth. In all the talk about the American housing market and banking misjudgments, the role of oil at $140 a barrel in sparking this recession has probably been underestimated. Last year, oil may have been sending a false signal to central banks by pushing up headline inflation when the economy was already weakening. David Ranson of Wainwright Economics says that the very high volatility of the oil price means it has a big impact on the headline consumer-prices index. Over the past three years, the correlation between the two has been 0.7 (where 1 is the maximum). That may have persuaded the European Central Bank to raise rates as late as July 2008, a decision that now looks very foolish.

Higher commodity prices transfer money from consuming to producing nations. Since the producers tend to save a large part of their windfall, the effect is to restrict global demand. This “tax” effect may be all the greater because the global economy is weak. Either companies will have to absorb the higher costs in their margins, or consumers will lose spending power, or both.

The impact on consumers may be more significant, because companies are keeping the lid on wages, their biggest single cost. According to David Rosenberg of Gluskin Sheff, a Canadian asset-management firm, the rise of 45 cents a gallon in petrol prices over the past month is the annualised equivalent of a $60 billion pay cut for American consumers. That in effect offsets the recent tax reductions for lower and middle-income workers in the economic-stimulus plan. Larry Hatheway of UBS says higher petrol prices come at a difficult time for consumers, because they have less access to credit than they did a couple of years ago.

Americans are already showing signs of caution. Figures released on June 1st showed that consumer spending fell by 0.1% in April, taking the saving rate up to 5.7%, a 14-year high. That is good news in the medium term, as America was too reliant on foreigners for savings. In the short term, however, sluggish consumption makes it hard for the economy to recover.

The commodity market may also be a long-term headwind for the global economy. Supply constraints

were part of the bullish argument for commodities earlier this decade. Because it takes years to find and then exploit new reserves, demand can outstrip supply for long periods.

Even the high prices of the boom years may not have been sufficient to eliminate these supply constraints. For one thing, they were accompanied by big increases in production costs—everything from the cost of steel in oil rigs through to higher wages for mining engineers. Producers also suffered from the “Chávez effect” as developing countries seized control of domestic resources. And finally, the sheer volatility of prices over the past 18 months has made it very difficult for mining companies to plan. Higher commodity prices should be a cause for investor concern rather than celebration.

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Economist.com **FINANCE & ECONOMICS**

Global house prices

Bottom fishing

Jun 4th 2009
From The Economist print edition

Lower prices are tempting bargain-hunters back into the most depressed markets

FEARS of a general deflation may be receding but in the rich world's housing markets at least, falling prices are still the norm. Property values are slumping in almost all of the 19 countries in our latest global survey (see table). The trend is most persistent in America, where prices in the first quarter were 19.1% lower than a year before, according to the national index published by S&P/Case-Shiller. That is the biggest drop since the series began in 1987.

The Economist's house-price indicators
% change

	Latest	Q1 2008	1997-2009*
	on a year earlier		
Switzerland	5.3	0.4	26
Italy	1.1	4.7	104
China	-1.1	11.0	na
South Africa	-2.7	8.1	384
United States (FHFA)	-3.3	-0.4	85
Japan	-3.4	-0.7	-35
Canada	-3.6	6.0	64
Sweden	-4.1	9.0	136
Germany	-4.2	-3.7	na
France	-6.6	4.3	133
Australia	-6.7	13.5	156
Spain	-6.8	3.8	175
New Zealand	-9.2	2.8	97
Netherlands	-10.2	2.1	78
Denmark	-10.5	-1.2	103
Ireland	-10.7	-8.6	182
Britain	-11.3	2.7	158
Hong Kong	-14.5	29.5	-34
United States (Case-Shiller ten-city index)	-18.6	-13.4	89
United States (Case-Shiller national index)	-19.1	-13.9	54
Singapore	-21.0	29.8	-13

*Q1 2009 or latest

Sources: ABSA; ESRI; FHFA; Hypoport; Japan Real Estate Institute; Nomisma; Nationwide; NVM; Quotable Value; Swiss National Bank; Standard & Poor's; government offices

The index from FHFA, the regulator of Fannie Mae and Freddie Mac, America's government-backed mortgage giants, shows a far gentler decline in prices. But that measure does not cover properties that have been financed by subprime loans (where prices are weighed down by fire sales) or deals above the price cap for regulated mortgages, a rarefied bit of the market where buyers are now scarce.

Prices may be falling but buyers are at least returning to the worst-hit markets, tempted by cheaper homes and lower mortgage rates. In America, home sales that had been agreed but not yet completed jumped by 6.7% in April, the third successive monthly rise, according to the National Association of Realtors. The number of completed deals rose by 2.9% that month. Almost half of these were "distressed" sales—ie, by borrowers with overdue loan payments, or of homes repossessed by lenders.

As in America, home prices in Britain have fallen a long way from their peak. Here lower prices have also tempted bargain-hunters back into the market. New buyer inquiries at estate agents rose in each of the six months to April, according to RICS, an industry group. Prices unexpectedly increased by 2.6% in May, according to Halifax, a mortgage lender. Loans are a bit easier to come by for prospective homebuyers.

As with the broader economy, these renewed signs of life in two of the world's most depressed housing markets do not yet suggest a strong revival. In Britain, for instance, the number of agreed home loans, while above its recent lows, is still around half that associated in the past with rising house prices. Even where there are ready buyers, still-troubled banks may not be willing or able to finance all of them. The ratio of house prices to workers' pay is still some way above its long-run average, so property in Britain could not yet be described as cheap. And house prices are unlikely to perk up for long if unemployment continues to rise, as it is likely to do over the coming months.

Job losses stand in the way of housing recovery in America too. Deprived of regular income, many homeowners are falling behind with their mortgage payments. A record 9.1% of borrowers had missed at least one payment by the first quarter of this year. A further 3.9% were in foreclosure, the legal process that settles defaults and thereby adds to the glut of homes for sale. At April's rate of sales, it would take ten months to shift the stock of unsold homes. In 2006, when markets were far perkier, that sales-to-stocks ratio was just 6.5 months.

Britain at least does not have such an inventory problem, because its rigid planning laws prevented a

house-building boom. Elsewhere in Europe, construction bubbles have left a surplus of empty houses for sale. Big supply gluts in Ireland and Spain are likely to push down house prices there for some time to come.

Banks and private equity

Return of the grave-dancers

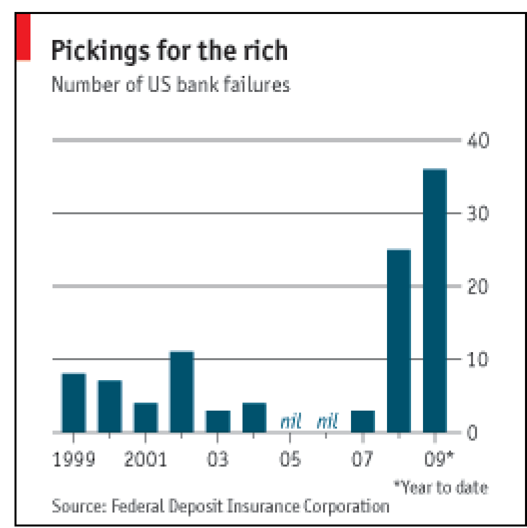
Jun 4th 2009 | NEW YORK
From The Economist print edition

Buy-out firms chafe under ownership restrictions, but pile in nonetheless

PRIVATE equity has been bitten once, but it doesn't do shy. Though some of its better-known names were left scarred after investing too early in troubled banks and thrifts—remember TPG's disastrous foray into Washington Mutual—buy-out shops are lining up for a second shot at finance as confidence picks up again.

For much of 2008 dealmaking was dead. But since the sale of IndyMac, a collapsed Californian lender, to a group of private buyers in January, "the logjam has broken", says Josh Lerner of Harvard Business School. In recent weeks Blackstone, Fortress, Carlyle, Wilbur Ross and others have bought stakes in banks, among them Florida's First Southern and BankUnited, the state's largest home-grown lender. Several other deals are said to be in the works, including the possible sale of Atlanta-based Silverton Bank, seized by regulators in May, to a group that includes Carlyle. Bidding wars are even breaking out.

Private equity has piles of unallocated capital, although it has become much more difficult to wrest undrawn funds from investors. It also has a lot more raw material to work with, as the pace of bank failures accelerates (see chart). Hundreds of lenders will need help to survive but most large banks are too capital-constrained to step in. Those that have raised fresh equity, such as JPMorgan Chase, will use it to repay taxpayers.



Hence the focus on private equity. The favoured strategy is to snap up a small bank, healthy or not, and turn it into a vehicle to scoop up failed local rivals. John Kanas, a veteran banker charged with reviving BankUnited, sees in it the foundation of a regional powerhouse. The Florida market is particularly attractive, he says, as many competitors there are shackled by regulatory or government restrictions.

Investing is still risky. Smaller banks are riddled with commercial-property loans, which are going bad at an alarming rate. American banks' loan-loss reserves are falling ever further behind actual losses and now cover just 70% of the total, according to Moody's, a rating agency. But buyers are growing cannier, pouncing only once a bank has been seized and insisting the government shoulders much of the downside in loss-sharing agreements.

The bigger problem for buy-out firms is posed by long-standing restrictions on bank takeovers by non-financial firms. Those unwilling to become bank-holding companies, with the extra regulation that entails, have to make do with a maximum stake of 33% (and voting rights of less than half that). Acquisitions are thus only possible via "club" deals, in which several buyers band together and regulators police the arrangement to ensure they are not acting in concert thereafter.

Alternatively, investors can use their personal wealth to buy entire banks. Christopher Flowers, a specialist in bank buy-outs, did just that, splashing out on a small Missouri lender and rebranding it Flowers Bank. But these solo buyers are barred from tapping their firms' funds for expansion, greatly limiting the appeal of such moves.

As the crisis has rumbled on, regulators have reluctantly ceded some ground to the barbarians at the banks' gates. They can now, for instance, appoint more directors without this being deemed to constitute control. Clubs of investors are being pre-cleared so they can pick up bank charters quickly when opportunities arise. The Office of the Comptroller of the Currency, which regulates nationally chartered banks, has even developed a "shelf charter", which such groups can secure in advance of deals. It has

already handed out two. The Federal Deposit Insurance Corporation, which handles failed banks and is expected to release new guidelines on private-equity investment soon, has also softened its stance. Sheila Bair, its chairman, believes buy-out firms should be considered eligible bidders if they show they can run a bank prudently and are “good corporate citizens”.

The Office of Thrift Supervision, which watches over lenders with around $1 trillion of assets, has gone even further. It recently permitted a single buy-out shop, MatlinPatterson, to take over a thrift in Michigan and has indicated that it will wave through similar deals.

This puts it at odds with the more cautious Federal Reserve, which oversees the holding companies that sit atop most banks. The Fed will not permit a firm that is not regulated as a bank to own a controlling stake in one, even if the investment is ringfenced. The central bank worries about mixing commerce and finance, which have been legally separated for decades in America.

Most investors accept that banks, unlike thrifts, are out of bounds to lone buyers. Some complain that not being able to control a bank forces them to demand a higher return, which will raise the cost of recapitalising the industry. But there will still be money to be made, says Mr Kanas, because even minority investors will be able to meet their hurdle rates of return if the government is generous enough in its risk-sharing. Mr Flowers, unable so far to make much progress at home and licking his wounds from setbacks abroad, believes riches lie ahead. As he colourfully predicted earlier this year: “Lowlife grave-dancers like me will make a fortune.”

Questioning the Hawthorne effect

Light work

Jun 4th 2009
From The Economist print edition

Being watched may not affect behaviour, after all

WHEN America's National Research Council sent two engineers to supervise a series of industrial experiments at a large telephone-parts factory called the Hawthorne Plant near Chicago in 1924, it hoped they would learn how shop-floor lighting affected workers' productivity. Instead, the studies ended up giving their name to the "Hawthorne effect", the extremely influential idea that the very act of being experimented upon changes subjects' behaviour.

The idea arose because of the perplexing behaviour of the women who assembled relays and wound coils of wire in the Hawthorne plant. According to accounts of the experiments, their hourly output rose when lighting was increased, but also when it was dimmed. It did not matter what was done; so long as something was changed, productivity rose. An awareness that they were being experimented upon seemed to be enough to alter workers' behaviour by itself.

Corbis



Working hard? It must be Monday

The data from the illumination experiments had never been rigorously analysed and were believed lost. But Steven Levitt and John List, two economists at the University of Chicago, discovered that the data had survived the decades in two archives in Milwaukee and Boston, and decided to subject them to econometric analysis. The Hawthorne experiments had another surprise in store for them. Contrary to the descriptions in the literature, they found no systematic evidence that levels of productivity in the factory rose whenever changes in lighting were implemented.

It turns out that idiosyncrasies in the way the experiments were conducted may have led to misleading interpretations of what happened. For example, lighting was always changed on a Sunday, when the plant was closed. When it reopened on Monday, output duly rose compared with Saturday, the last working day before the change, and continued to rise for the next couple of days. But a comparison with data for weeks when there was no experimentation showed that output always went up on Mondays. Workers tended to beaver away for the first few days of the working week in any case, before hitting a plateau and then slackening off.

Another of the original observations was that output fell when the trials ceased, suggesting that the act of experimentation caused increased productivity. But experimentation stopped in the summer, and it turns out from the records of production after the experiments that output tended to fall in the summer anyway. Perhaps workers were just hot.

There is a suggestion in the data that productivity was more responsive to changes in artificial than natural light. This could be interpreted as a subtler version of the Hawthorne effect, if you believe that workers were aware that changes in artificial light were induced by the experimenters, whereas natural light was changing on its own. But even this evidence is weak. For something so influential and intuitively appealing, it turns out that the Hawthorne effect is remarkably hard to pin down.

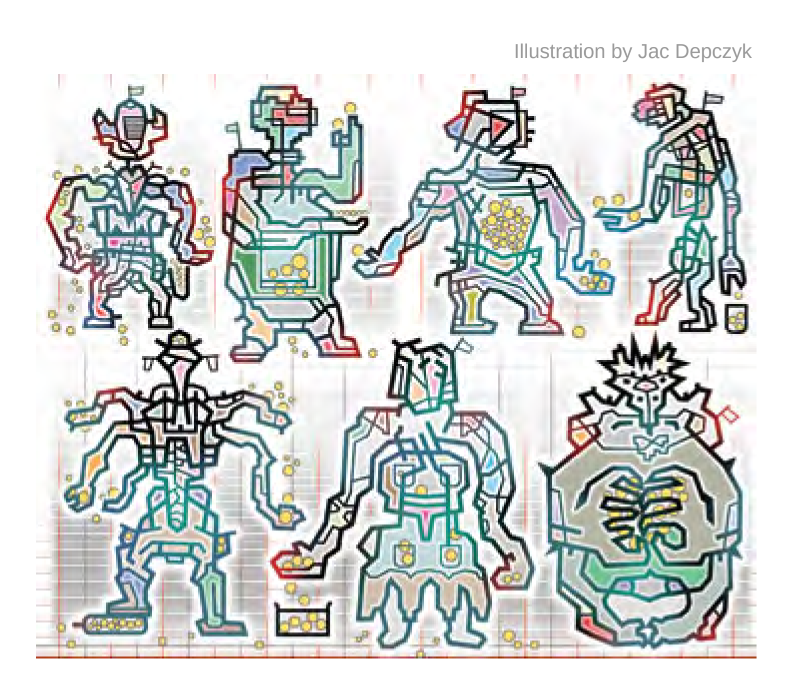
Economics focus

In the blood

Jun 4th 2009
From The Economist print edition

Attitudes towards redistribution have a strong cultural component

Illustration by Jac Depczyk



ARGUMENTS over economic policy are often heated. Debates about the extent to which tax and welfare policy should redistribute wealth from rich to poor tend to be particularly fractious. Understanding why people hold different opinions on the topic interests economists, not least because citizens' attitudes towards such matters are likely to influence the governments they elect. Some of the evidence from individual countries conforms to standard economic reasoning. Richer people, who have least to gain from redistribution, are usually less keen on it than their poorer compatriots. So are those who think they have a chance of being rich in the future, by moving up the economic ladder.

But opinions about redistribution also seem to vary from one country to another. And this has led economists to ask whether "culture" or "values" independently influence those opinions. Survey data about the political and economic attitudes of people in different countries show that the average American is far less favourably disposed towards redistribution than the typical European. Barack Obama got an unsolicited reminder of this on the campaign trail in 2008, when an off-the-cuff remark about the need to "spread the wealth around" provoked some shrill retorts. Such views, said Mr Obama's detractors, went against the grain of American values.

There is tremendous variation within Europe, too. People in former communist countries tend to favour more redistribution than those who live in Britain or the Netherlands. Is there something about Polish culture, say, which makes a person more favourably disposed towards redistribution than someone of similar income and education who happens to be British?

Apart from being little-charted terrain for economics, questions like this are also difficult to answer because culture, institutions, policies, economic outcomes and people's attitudes are all hopelessly intertwined. How, for example, can you separate the effects of a country's culture from those of its welfare system, which is both a part and product of that culture? Erzo Luttmer and Monica Singhal of Harvard University argue in a new paper* that studying the attitudes of immigrants offers a possible way around this problem.

Immigrants have typically had their formative experiences in a country with different institutions, benefit systems and attitudes from those of their adopted home. If culture matters, then their attitudes should

be different from those of native citizens in similar economic circumstances and closer to those that prevail in their country of origin. Mr Luttmer and Ms Singhal analyse data from the European Social Survey, a biennial multi-country exercise, on the attitudes of over 6,000 immigrants who have moved from one of 32 countries in the survey to another and they find precisely this result.

Even after controlling for income, education and other relevant economic and social factors such as work history and age, views about redistribution in an immigrant's home country are a strong predictor of his own opinions. Indeed, this measure of "cultural background" explains as much as income levels, and three-fifths as much as income and education combined. These results hold even for immigrants who moved 20 years before they were surveyed; they cannot be attributed to people not having had time to adjust their views.

But what if immigrants are self-selecting, choosing to migrate to places where policies are to their liking? This may be true, but it would make the sort of effect that Mr Luttmer and Ms Singhal uncover less, not more, likely. They find, after all, that someone who grew up in a pro-redistribution society is significantly more in favour of redistribution than the natives of the country where he now lives. Selective emigration would imply the opposite, since people would presumably desert places where their attitudes were not the norm in favour of countries where their preferences were more typical.

People may also migrate because they know something about their own future prospects. For example, those who expect to be rich could emigrate from high-taxation places to places where there is less redistribution. It is impossible to control for such differences, since they are not observable. But such migration would also make it less likely that immigrants' preferences matched those of the country they left behind rather than those of the country they came to live in.

Bred to redistribute

Even more convincing evidence of the impact of culture comes from second-generation immigrants. The opinions of children born in the host country about the desirability of redistribution are strongly influenced by the norms that prevail in the countries their parents came from. That denotes some transmission of values and attitudes between generations. But the effect of culture is only about two-thirds as large as it is for foreign-born immigrants. Although durable, it apparently fades with time.

Perhaps economists should not be too surprised by the persistent effects of culture on attitudes to economic policy. Ms Singhal attributes her initial interest in these questions to realising, during her graduate studies, that even Harvard economists with similar education, incomes and interests had views about the economic role of the state that seemed to vary by nationality. But the implications are potentially striking. Immigrants from pro-redistribution places, and their children too, are much more likely to vote for political parties that champion greater redistribution of wealth. That leads the authors to ask whether, over time, the composition of immigration into a country could end up having a meaningful impact on its tax policies.

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* "Culture, Context, and the Taste for Redistribution" by Erzo Luttmer and Monica Singhal, May 2009: ksghome.harvard.edu/~msingha/CultureRedistribution.pdf

Warfare, culture and human evolution

Blood and treasure

Jun 4th 2009
From The Economist print edition

People are altruistic because they are militaristic, and cultured because they are common. At least that is the message of a couple of new studies

Corbis



TWO of the oddest things about people are morality and culture. Neither is unique to humans, but *Homo sapiens* has both in an abundance missing from other species. Indeed, that abundance—of concern for the well-being of others, (even unrelated others), and of finely crafted material objects both useful and ornamental—is seen by many as the mark of man, as what distinguishes humanity from mere beasts.

How these human traits evolved is controversial. But two papers in this week's *Science* may throw light on the process. In one, Samuel Bowles of the Santa Fe Institute in New Mexico fleshes out his paradoxical theory that much of human virtue was forged in the crucible of war. Comrades in arms, he believes, become comrades in other things, too.

In the other paper, Mark Thomas and his colleagues at University College, London, suggest that cultural sophistication depends on more than just the evolution of intelligence. It also requires a dense population. If correct, this would explain some puzzling features of the archaeological record that have hitherto been put down to the arbitrary nature of what has survived to the present and what has not.

Dr Bowles's argument starts in an obscure cranny of evolutionary theory called group selection. This suggests that groups of collaborative individuals will often do better than groups of selfish ones, and thus prosper at their expense. It is therefore no surprise, according to group-selectionists, that individuals might be genetically predisposed to act in self-sacrificial ways.

This good-of-the-group argument was widely believed until the 1960s, when it was subject to rigorous scrutiny and found wanting. The new theory does not pitch groups against groups, or even individuals against individuals, but genes against genes. It does not disallow altruistic behaviour, but requires that this evolve in a way that promotes the interest of a particular gene—for example by helping close relatives who might also harbour the gene in question. The "selfish gene" analysis, so called after a book by Richard Dawkins, makes good-of-the-group outcomes almost impossible to achieve.

War and peace

A few researchers, of whom Dr Bowles is one, have been unwilling to give up on group selection completely. They note the word “almost” in the argument above and contend that humans, with their high intelligence and possession of language, and their tendency to live in small, tightly knit groups, might be exceptional. They also think people could be subject to a form of group selection that is genetically selfish.

Dr Bowles has focused the argument on war, since it is both highly collaborative and often genetically terminal for the losers. In his latest paper he puts some numbers on the idea. He looks at the data, plugs them into a mathematical model of his devising and finds a pleasing outcome.

To gather his data, Dr Bowles trawled through ethnographic and archaeological evidence about warfare between groups of hunter-gatherers. This is rarely war in the modern sense of planned campaigns. It is more a matter of raids, ambushes and fights between groups who have met accidentally. It is, nevertheless, quite lethal. Dr Bowles identified eight ethnographic and 15 archaeological studies that met his criteria of reliability and abundance of data. They suggest that 12-16% of mortality is the result of such low-level warfare. This is a figure much higher than, for example, the mortality caused in Europe by two world wars, and is certainly enough to drive evolution. But the question remained of whether it could drive group selection.

It was to test that idea that Dr Bowles devised his model. Although it pitches group against group, it is strictly based on the idea of selfish genes. It looks at the benefit to a notional gene that promotes self-sacrifice. The question is, does such a gene do well if individuals having it belong to a group that takes over the territory and resources of a similar, neighbouring group, but at the risk of some of those individuals losing their life in the process? What is the maximum self-sacrificial cost that can evolve in these circumstances?

In the absence of war, a gene imposing a self-sacrificial cost of as little as 3% in forgone reproduction would drop from 90% to 10% of the population in 150 generations. Dr Bowles’s model, however, predicts that much higher levels of self-sacrifice—up to 13% in one case—could be sustained if warfare were brought into the equation. This, he contends, allows the evolution of collaborative, altruistic traits that would not otherwise be possible. Moreover, although warfare is an extreme example, other, less martial forms of self sacrifice may have similar group-strengthening virtues.

Dr Thomas and his colleagues also rely on a mathematical model. They are trying to explain the pattern of apparent false-starts to modern human culture. The species is now believed to have emerged 150,000-200,000 years ago in Africa and to have begun spreading to the rest of the world about 60,000 years ago. But signs of modern culture, such as shell beads for necklaces, the use of pigments and delicate, sophisticated tools like bone harpoons, do not appear until 90,000 years ago. They then disappear, before popping up again (and also sometimes disappearing), until they really get going around 35,000 years ago in Europe.

The team drew on an earlier insight that it requires a certain number of people to maintain skills and knowledge in a population. Below this level, random effects can be important. The probability of useful inventions being made is low and if only a few have the skills to fabricate the new inventions, they may die without having passed on their knowledge.

In their model, Dr Thomas and his colleagues divided a simulated world into regions with different densities of human groups. Individuals in these groups had certain “skills”, each with an associated degree of complexity. Such skills could be passed on, more or less faithfully, thus yielding an average level of skills that could vary over time. The groups could also exchange skills.

The model suggested that once more than about 50 groups were in contact with one another, the complexity of skills that could be maintained did not increase as the number of groups increased. Rather, it was population density that turned out to be the key to cultural sophistication. The more people there were, the more exchange there was between groups and the richer the culture of each group became.

Dr Thomas therefore suggests that the reason there is so little sign of culture until 90,000 years ago is that there were not enough people to support it. It is at this point that a couple of places in Africa—one in the southernmost tip of the continent and one in eastern Congo—yield signs of jewellery, art and modern weapons. But then they go away again. That, Dr Thomas suggests, corresponds with a period when human numbers shrank. Climate data provides evidence this shrinkage did happen.

According to Dr Thomas, therefore, culture was not invented once, when people had become clever

enough, and then gradually built up into the edifice it is today. Rather, it came and went as the population waxed and waned. Since the invention of agriculture, of course, the population has done nothing but wax. The consequences are all around you.

Early detection of arthritis

Painful predictions

Jun 4th 2009
From The Economist print edition

A new X-ray technique could spot trouble coming

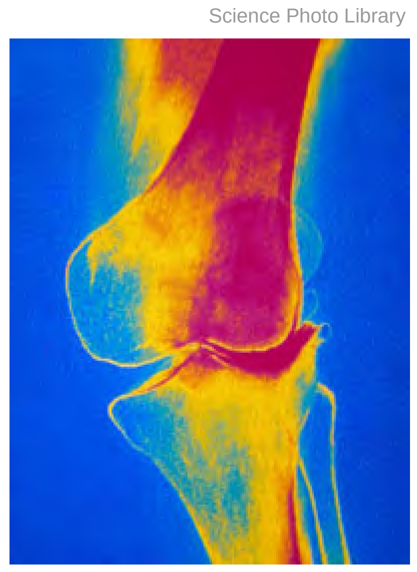
MANY medical conditions associated with growing older, such as cataracts and blocked arteries, can nowadays be readily treated. But aching bones still leave researchers perplexed. Osteoarthritis of the knees presents a particularly serious problem. Once the condition takes hold there is little that can be done about it. Sufferers often dramatically reduce their physical activities, which in turn can lead to the development of other health problems. A cure does not yet look likely, but a new technique could at least make predicting the onset of the disorder much easier.

Early prediction brings benefits because if people know they are vulnerable to osteoarthritis in their knees, there are things that they can do to mitigate it. Reducing weight, so less stress is placed on the knees, exercising and certain diets can all help. Usually, it is only when their knees become painful that people go to see a doctor and osteoarthritis is diagnosed. Even in its early stages, radiologists can find it difficult to notice the condition on x-rays.

Lior Shamir and his colleagues at the National Institutes of Health in Baltimore, Maryland, decided to tackle this problem by seeing if a computer program could be designed to analyse x-rays of knees and give early warnings of osteoarthritis. Dr Shamir's team digitised 200 x-rays taken during the mid-1980s as part of a project to document the ageing of the human body. At the time, the knees of all the people involved had been diagnosed by expert radiologists as normal but, as those people aged, many developed osteoarthritis.

The researchers analysed the pixels of the scanned knee images to see if they could detect any chemical or structural alterations in the cartilage and bone of the type that are often associated with degeneration of the joints. The data were then used to build a computer algorithm which attempted to predict who would go on to develop osteoarthritis and who would not. The result, reported in *Osteoarthritis and Cartilage*, was that the algorithm could say with an accuracy of 72% which knees were destined to become arthritic—nearly 20 years before symptoms were reported.

Science Photo Library



A knee that will hurt

Dr Shamir admits there is still a high margin of error, although with tweaking the algorithm may be improved. In any event, it could still provide a useful guide, not least by showing that the chemical and mechanical processes of osteoarthritis start long before patients feel pain and doctors diagnose the condition. As baby-boomers age, many will welcome the opportunity to take some preventive action against one of the painful consequences of increased longevity.

Fraud in science

Liar! Liar!

Jun 4th 2009
From The Economist print edition

Scientists are not quite as honest as might be hoped

THAT people, from politicians to priests, cheat and lie is taken for granted by many. But scientists, surely, are above that sort of thing? In the past decade the cases of Hwang Woo-Suk, who falsely reported making human embryonic stem cells by cloning, and Jan Schön, a physicist who claimed astonishing (and fabricated) results in the fields of semiconductors and superconductors, have shown that they certainly are not. However, on these occasions the claims made were so spectacular that they were bound to attract close scrutiny, and thus be exposed eventually. In the cases of Dr Hwang and ex-Dr Schön, the real question for science was not whether it harbours a few megalomaniac fantasists, but why the frauds were not exposed earlier when the papers that made the claims were being reviewed by peers.

Lower-level fraud, however, is much harder to detect: the data point invented or erased to make a graph look better, or to make a result that was not quite statistically significant into that scientific desideratum, the "minimum publishable unit"; the results "mined" retrospectively for interesting correlations, rather than used to test pre-existing hypotheses; the photograph that has been "enhanced" to bring out what the researcher regards as the salient features. How often this sort of thing happens is hard to say. But Daniele Fanelli of the University of Edinburgh thought he would try to find out. His results, published in the *Public Library of Science*, suggest it is commoner than scientists would like the rest of the world to believe.

Dr Fanelli's own laboratory was the internet. He hunted down past surveys of scientific honesty and subjected them to what is known as a meta-analysis. This is a technique that allows the results of entire studies, which may not have used the same methods, to be pooled in a statistically meaningful way. Dr Fanelli found 18 surveys that met the criteria for his meta-analysis, and a few others that he also included in a general review.

Admissions of outright fraud (ie, having fabricated, falsified or modified data to improve the outcome at least once during a scientific career) were low. According to the meta-analysis, 2% of researchers questioned were willing to confess to this. But lower-level fraud was rife. About 10% confessed to questionable practices, such as "dropping data points based on a gut feeling" or "failing to present data that contradict one's previous research"—though this figure was just a straight average of the underlying studies, since the relevant parts of the underlying studies were too disparate to run through the meta-analysis.

Moreover, when it came to airing suspicions about colleagues, the numbers went up. The meta-analysis suggested that 14% of researchers in the underlying studies had seen their colleagues fabricate, falsify, alter or modify data. If the question was posed in more general terms, such as running experiments with deficient methods, failing to report deficiencies or misrepresenting data, the straight average suggested that 46% of researchers had seen others get up to such shenanigans. In only half of the cases, though, had the respondent to a survey tried to do anything about the misconduct he said he had witnessed.

How much this actually matters is moot. Fabricating data is a heinous scientific sin. It steers people down paths that do not lead anywhere and discourages them from following those that do. But cleaning data up has a long tradition. Robert Millikan, the physicist who first measured the charge on the electron, discarded results that did not match his expectations, yet he won a Nobel prize—because he was right. The results of Gregor Mendel, the father of modern genetics, are also suspiciously over-accurate by the tenets of modern statistics. When such practices shade into dishonesty is itself a shady area. Just as everyone thinks himself a better-than-average driver, these results (assuming that they are honest) suggest people are more willing to see sin in others than in themselves. And that, at least, proves something that is sometimes forgotten. Scientists are as human as everyone else.

Replacing chrome

Shine on me

Jun 4th 2009
From The Economist print edition

A safer way to produce a bright surface

Alamy

CHROME plating has long been used to show off everything from Harley-Davidson motorcycles to kitchen taps. This is not just because it can be buffed into a shine that you can see your face in. Chrome plating has been cheap to do, it ends up harder than steel and it is extremely durable because it resists corrosion. But working with the stuff can be an environmental nightmare. Now, though, researchers may have found a safer alternative.

Metal objects are coated with chrome in an electroplating process that involves running a current through a liquid bath of chemicals that contain chromium ions. These get deposited on the surface of the material in a thin layer. However, the chemicals are hazardous to health and the waste materials generated can poison groundwater if not disposed of carefully. When chrome plating came into widespread use in the 1940s these dangers were not well understood. Modern environmental and health regulations have significantly increased the costs of a chrome-plating factory. Industries that use a lot of chrome have tried to find alternatives, but have so far discovered nothing that looks as good or is as tough.

Christopher Schuh and his colleagues at the Massachusetts Institute of Technology set out to find an alternative by identifying the properties that make chrome so strong. Metals are composed of crystals that have their atoms lined up in neat rows. In most metals these rows can readily slip past one another, a characteristic that will lower the overall strength of the material. Dr Schuh's team found that chrome benefits from a crystalline structure that is exceptionally small and this prevents its atomic rows from slipping.

For this reason they decided to work with nanocrystalline nickel, another material formed from minute atomic rows. They ran several trials plating objects with it. Although their nanocrystalline nickel was very tough at first, it lost its hardness when left at room temperature over a matter of months and so ended up as a poor substitute for chrome. To improve its properties they tried mixing it with a combination of metals.

To predict which metals would form the nanocrystalline structures that they were searching for, Dr Schuh and his colleagues used computer models that put atoms from different metals together. Because this was done at such a small scale, the way the atoms interact can produce new and different properties according to the rules of quantum physics. They found that when tungsten was added to the nickel it produced a suitable structure. The bonus was that the mixture was capable of being plated and in a way that was more environmentally friendly.

Initial tests showed that when materials were coated in the nickel-tungsten alloy, using a modified electroplating technique that keeps its crystals particularly small, the plating remained stable indefinitely at room temperature. Nor did it easily degrade when exposed to great heat. The nickel-tungsten alloy can be extremely bright and shiny, and even made to become harder than chrome. All in all, its characteristics and absence of environmental hazards make it the most appealing replacement yet found for chrome. The researchers intend to report as much to a forthcoming conference of the National Association for Surface Finishing in Louisville, Kentucky.

Proof, though, will come with use. Testing is already under way, with the nanocrystalline nickel-tungsten alloy being tried out as a plating on the bumpers of a fleet of trucks. It could soon find its way onto kitchen taps and other shiny fixtures. And if it can get to ride on a Harley, then its future will be assured.

Economist.com BOOKS & ARTS

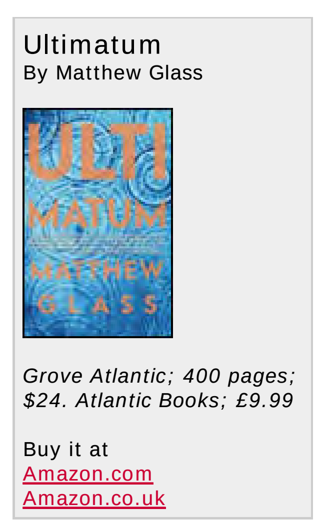
Matthew Glass's "Ultimatum"

Tidal fear

Jun 4th 2009
From The Economist print edition

A thriller for our age

Ultimatum
By Matthew Glass



Grove Atlantic; 400 pages; $24. Atlantic Books; £9.99

Buy it at
Amazon.com
Amazon.co.uk

Illustration by Daniel Pudles



STOKING terror has been a staple of thrillers ever since Erskine Childers wrote "The Riddle of the Sands" more than 100 years ago. Foreign invasions? Deadly microbes? Nuclear explosions? Each decade boasts its emblematic page-turners. These may be works of fiction, but for the most part they are inspired by the real-world terrors of their own particular time.

In that sense, this summer's offerings are no different. Instead of the rogue Russian submarines of the cold-war years, several thrillers due to be published over the next few weeks feature a frightening level of day-to-day surveillance, a squeeze on civil liberties and inexorable government creep. A cut above these, and quite different, is "Ultimatum" by Matthew Glass. The publisher is already describing Mr Glass as the heir to Tom Clancy (for "The Hunt for Red October") and to Michael Crichton (for "State of Fear", his diatribe about global warming). "Ultimatum" is better than either of these. The first politico-

diplomatic-disaster thriller, Mr Glass's engrossing work leaves the reader thinking long after the last page is turned.

The book is set in 2032, between a landslide American election and the early weeks of the new presidency. In the previous decades there has been a fundamentalist coup in Pakistan, a wholesale collapse of the Chinese stock market and a government-backed massacre in Hong Kong. At the same time, large swathes of the American coast, as well as eastern Asia and Sri Lanka, are under water. Hurricanes sweep regularly through the American South and wildfires rage through much of the West. More than 25m Americans must be moved to higher ground; whole new cities are being planned. But the losing Republican government has been miserly in its allocation of resources and the relocation programme risks turning into long lines of dusty refugee tents rather than anything forward-looking and inspired.

The newly elected president, Joe Benton, is shocked to learn that his predecessor's administration has also been knowingly under-reporting the catastrophic effects of global warming. The world is dangerously close to disaster. "How long do you keep going before you admit a process isn't working?" asks Benton's pugnacious secretary of state, Larry Olsen, who wants to put a stop to the blah-blah of international environmental diplomacy.

Benton too is frustrated with 30 years of successive Kyoto treaties and proposes a radical international solution. In order for it to succeed he must first bring on-board the earth's greatest polluter, China. At great risk, Benton begins secret bilateral talks. The leadership in Beijing is unfazed by the threat of economic disaster. It sees Benton's gambit as an opportunity to redress wrongs, rewrite history and reshape the world's political balance.

Matthew Glass is the pseudonym of an Australian-born doctor, now living in Britain, who writes fiction in his spare time and wants (for the moment, at least) to keep his real identity concealed. For a first-time novelist to range so far from what is familiar is highly unusual. But Mr Glass rises to the challenge.

Several characteristics lift his novel above the average. His portrait of the effects of global warming is as vivid as it is dark. The author's research, both scientific and political, is meticulous, yet it never swamps the story. The book may be set in the future, but it is really about today. "Ultimatum" does a better job of convincing the reader about the price the world will pay for its complacency about global warming than any international grandstanding or dry scientific reports.

Dialogue and speeches drive the plot, giving Mr Glass the opportunity to create a presidential hero (along with his plain-speaking wife, intelligent daughter and troubled son) who even in his darkest hour is eloquent and unflinching. "I stand before you, I think, as a president who bears the gravest burden a president has ever borne." Mr Glass, who has worked in America and with human-rights groups, is familiar with the corridors and committee-rooms of power. He is good at portraying diplomatic brinkmanship and political in-fighting, and knows how policy gets made, all areas that a clumsier writer might have struggled to bring to life. This is a novel for politician and non-politician alike. And the ending is brilliant.

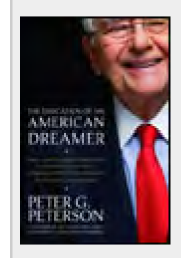
Ultimatum.
By Matthew Glass.
Grove Atlantic; 400 pages; $24. Atlantic Books; £9.99

Peter Peterson

America's fiscal Cassandra

Jun 4th 2009
From The Economist print edition

The Education of an American Dreamer: How a Son of Greek Immigrants Learned His Way From a Nebraska Diner to Washington, Wall Street and Beyond
By Peter G. Peterson



Twelve Books; 375 pages; $34.99

Buy it at
Amazon.com
Amazon.co.uk

THIS book carries two warning signs. First, it has a plodding title: "The Education of an American Dreamer". Second, it is the memoir of a former commerce secretary. How could such a book possibly fail to be dull?

The answer is, if it is written by Peter Peterson. Most commerce secretaries cannot be forgotten because the public never learned their names in the first place. Mr Peterson is an anomaly. As the head of Richard Nixon's commerce department, he specialised in solid analysis and brazen showmanship. When trying to end a furious stand-off between tuna fishermen and dolphin-lovers, he posed with Flipper, a Bottlenose film star, to reassure the public that he cared. (He also pushed for safer tuna nets.) To promote a new way of making children's clothes flame-resistant, he got his daughter to go on television and hold a match to her favourite rag doll.

The one skill he lacked was for bureaucratic in-fighting. As an economic adviser to President Nixon, he was told he could take an office in the west wing of the White House, but he did not have the heart to turf out its occupant, the young Donald Rumsfeld. He never figured out how to deal with political heavies, such as H.R. Haldeman, Nixon's chief of staff. When he strayed too deeply into policy issues, Haldeman would cut him off gruffly by saying: "That is a matter of substance. I am not interested in that." And when he was finally sacked as commerce secretary, he infuriated his former boss by joking, at a leaving party, that he had flunked the Nixon loyalty test because: "my calves are so fat that I couldn't click my heels." Nixon did not take kindly to such jests.

Mr Peterson's memoir is worth reading for three reasons. First, he really has lived the American dream. His Greek father arrived in America in 1912 with only a primary education and no English. Mr Peterson grew up counting out change in the family diner in Nebraska. In 2007 he sold his stake in the Blackstone Group, his private-equity firm, for $1.85 billion. On the way, he notched up some colourful experiences as an advertising executive, as the boss of a camera manufacturer and as the chairman of Lehman Brothers, an investment bank that collapsed in September 2008.

Second, Mr Peterson is a crusader for a noble cause. He has committed the bulk of his immense fortune to nagging Americans to take their fiscal problems seriously. The huge budget deficit is only the tip of the iceberg, he warns, on posters, through his think-tank and in a surprisingly watchable documentary. The federal government has liabilities equivalent to $483,000 per American household, largely in the form of unfunded commitments to provide old people with health care and pensions. Politicians are too scared by looming elections to do anything about it, as he has seen at first hand. He recalls his shock when Bill Clinton sat down with him, agreed that social security (the public pension system) was bankrupt, and then stood up and told a crowd of voters that it was just fine.

Getty Images

Only if the public are convinced that deficits matter will politicians dare to fix them, reckons Mr Peterson. He is inspired by Al Gore's success in making them take climate change seriously. But his task could be even harder. Fixing social security would be technically simple but politically suicidal. (You would need to raise the retirement age, or raise taxes, or reduce benefits, or some combination of the above.) Fixing health care would require a complete overhaul of a fiendishly complex system that swallows more than a sixth of the entire American economy and is warped by perverse incentives.

Mr Peterson cites an example from his own experience. He is in his 80s

and has a dodgy back. A surgeon told him he needed surgery, which would have cost $14,000 and hurt like Hades. Being sceptical, he asked for a second opinion from a doctor who did not do surgery, and learned that $250 cortisone injections would be just as effective and much less painful. Mr Peterson is not worried about his personal medical bills, of course. But he is outraged at the way over-doctoring, among other things, is raising health insurance premiums, depressing ordinary Americans' wages and threatening to bust the federal budget.


The fat-calved crusader

All this could be hard going for the reader were it not for another of Mr Peterson's appealing qualities. He has a sense of humour, albeit a rather slapstick one. On a trip to the former Soviet Union with a woman journalist who was a strident anti-communist, he persuaded the head of the Communist Party that she might respond well to a friendly bear-hug. The resulting photograph suggested "two old lovers", recalls Mr Peterson, who naturally sent it to the reporter's colleagues at the *Washington Post*. Mr Peterson's playfulness never obscures the seriousness of his purpose, however. As he was putting the final touches to his book, America's national debt passed $10 trillion, and the national debt clock ran out of space to record it.

The Education of an American Dreamer: How a Son of Greek Immigrants Learned His Way From a Nebraska Diner to Washington, Wall Street and Beyond.
By Peter G. Peterson.
Twelve Books; 375 pages; $34.99

Economist.com BOOKS & ARTS

Isaiah Berlin

Centennial impressions

Jun 4th 2009
From The Economist print edition

WHEN the late Isaiah Berlin was knighted, a friend joked that the honour was for his services to conversation. The distinguished theorist of liberalism was indeed a brilliant talker and feline gossip. Readers of Berlin's letters will find that same bubbling flow of malice, wit and human insight on the written page.

A first set of letters came out five years ago. To coincide with Berlin's centenary year—he lived from 1909 to 1997—his literary executor, Henry Hardy, and a team of co-editors have now brought out a second fat volume. The verbal pressure is higher still, for in 1949 Berlin began dictating to a machine.

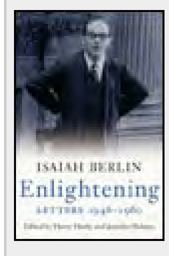
Biographically the letters take the reader through Berlin's professional ascent from clever young don to Oxford professor, public educator and transatlantic academic star. They track the consolidation of his social position as an intellectual jewel of the post-war British establishment. Three or four footnotes a page introduce perhaps 1,000 or more politicians, public servants, academics, musicians and socialites whom Berlin knew or talked about. For that alone, his letters are a unique record of a bygone milieu.

Berlin did not write on oath. He ladles praise on correspondents only to dismiss them in letters to others as gorgons or third-raters. During the Suez crisis in 1956 he writes to the wife of the prime minister, Sir Anthony Eden, that her husband has shown "great moral splendour". The next letter, to Berlin's stepson at Harvard, calls the British action "childish folly". His capsule judgments are sometimes apt, sometimes sneering. He calls Sir Peter Strawson, an eminent contemporary philosopher, provincial.

Berlin is sharper still on his own thin-skinned self. He belittles his large philosophical gifts, finds publication an agony and worries to correspondents that his work is rot.

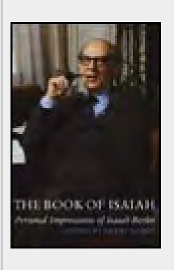
Mr Hardy says that these letters represent perhaps a fourth of those Berlin wrote in 1946-60. There are none back to him. So here is Berlin in his own ironical voice, as selected by editors. A reader only of these letters may well ask why Berlin had such grateful pupils and devoted friends. And why was he among the foremost liberal thinkers of the age? A selection of old and new tributes, "The Book of Isaiah", also edited by the tireless Mr Hardy, partly answers both questions.

Enlightening: Letters 1946-1960
By Isaiah Berlin. Edited by Henry Hardy
Edited by Jennifer Holmes



Chatto & Windus; 844 pages; £35

The Book of Isaiah: Personal Impressions of Isaiah Berlin
Edited by Henry Hardy



Boydell Press; 368 pages; $47.95 and £25

Thinkers such as John Rawls defended liberal principles with more argument. Among historians of ideas, Quentin Skinner did more to professionalise their discipline. No one had Berlin's gift for dramatising and personalising abstract ideas.

Berlin kept returning to three core convictions. Freedom from constraint by others (negative liberty) is more urgent or basic, he argued, than freedom to realise your potential (positive liberty). The left distrusted that distinction and the right misappropriated it, while philosophers continue to pick it over. He thought, secondly, that liberalism fails if it cannot validate the universal need to belong.

But perhaps Berlin's strongest conviction was that the basic commitments—to friendship and truth, fairness and liberty, family and achievement, nation and principle—clash routinely and cannot be smoothly reconciled. Thinkers and politicians should admit the conflicts, Berlin implied, and not blanket them with doctrine or tyrannically attempt to subordinate some concerns to others.

The first two of those ideas crop up here and there in these letters. In personal form, that third conviction—that people are to be taken in full, not in formulae—runs throughout, and was surely one source of Berlin's charm. More volumes of letters are to follow. Readers will wonder what self-mocking Berlin would have made of this growing monument. He was an erudite wit at the dinner table and, as the reader now sees, in his letters. But he was a thinker first, and for his thought there is no substitute for his essays.

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By Isaiah Berlin. Edited by Henry Hardy and Jennifer Holmes.
Chatto & Windus; 844 pages; £35

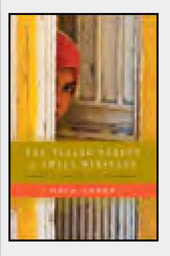
The Book of Isaiah: Personal Impressions of Isaiah Berlin.
Edited by Henry Hardy.
Boydell Press; 368 pages; $47.95 and £25

Iraq's children

Saving the orphans

Jun 4th 2009
From The Economist print edition

The Flying Carpet of Small Miracles: A Woman's Fight to Save Two Orphans
By Hala Jaber



Riverhead Books; 282 pages; $25.95. Macmillan; £16.99

Buy it at
Amazon.com
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Panos



BLESSED with courage, humanity, a Lebanese background and the support of a British newspaper, Hala Jaber had the credentials to spell out the true ugliness of "collateral damage" in the Iraqi war. When the *Sunday Times*, among other newspapers, established a fund to help injured civilians, Ms Jaber and her photographer husband Steve set out to find stories that would pierce hearts and empty wallets. It was an all too easy commission.

In one hospital, a young boy, with both his arms missing, was the sole survivor when an American missile crashed into his family's farmhouse. "Will I get my arms back?" he asks Ms Jaber. "What about my hands?" Nearby a weeping grandmother sits beside a little girl wrapped in bandages. Another American missile had hit the car in which her parents and their seven children were fleeing danger in Baghdad. They were all killed except for the little girl and her baby sister, who had been thrown through the window by her burning mother.

Such horrors could be too strong meat. Ms Jaber places them in the framework of a narrative about her own childlessness. Living in Britain, she had tried hard to conceive and had undergone several IVF cycles. After ten years she gave up and returned to reporting from the Middle East. The Iraqi orphans reawoke her maternal longing and, for the first time, she thought seriously of adoption. When those hopes received an awful setback, she dealt with her unhappiness and guilt by plunging ever deeper into journalism, covering the insurgency and the brutal civil fighting that followed the invasion.

She felt "seized with a sense of mission, a duty to bear witness to the havoc wreaked by war on the lives

of the innocents.” In fulfilling this mission she was brave, foolhardy even, travelling more or less unescorted to areas where most correspondents feared to go in convoy. Deservedly, she won several prestigious awards. She met outstanding people, above all Marla, a blonde Californian, who single-handedly outfaced the authorities as she strove to save children, until she herself was killed by a car bomb. And some of her stories are almost funny. Just before Fallujah was blitzed by the Americans, she was allowed to “embed” herself with the insurgents only by promising to cook their evening meal (it was Ramadan). She struggled with “the ultimate kitchen nightmare” to produce an inventive dinner. But drama descended into farce when she discovered that her period had started, for which she had none of the necessary supplies. She fled back to Baghdad, her embarrassment saving her from probable death in the bombardment.

Ms Jaber’s self-examination is sometimes irritating but her theme is devastating. She recounts few happy endings, even for the children who were helped by charities. The little girl dies in an American field hospital which had to improvise its paediatric equipment. The armless boy was plucked out of his plundered hospital and sent to Britain for generous treatment and education. But years later Ms Jaber finds him back in Baghdad, his exams unfinished and without the prosthetics which he found too heavy. He had leave to stay in Britain and had learnt to do a lot with his toes. But not everything; and his uncle, who was prepared to care for him, had been refused a visa by mean-spirited British officialdom.

The Flying Carpet of Small Miracles: A Woman’s Fight to Save Two Orphans.
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Pierre-Laurent Aimard

Note taker

Jun 4th 2009 | ALDEBURGH
From The Economist print edition

A French modernist rises to a very British challenge

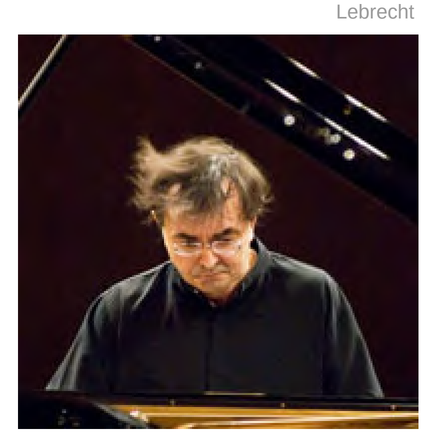
IN 1976 Pierre Boulez, then already a cutting-edge musician in France, named an unknown 19-year-old to be the resident pianist in his elite Parisian troupe, the Ensemble InterContemporain. The appointment marked the teenager, Pierre-Laurent Aimard, as someone to watch. More than three decades later, having set down benchmark recordings of his patron's work together with that of Mr Boulez's teacher, Olivier Messiaen, and two other masters, Gyorgy Kurtag and Gyorgy Ligeti, both Hungarian, Mr Aimard's reputation as his generation's foremost pianist of contemporary classical music is beyond question.

Eighteen months ago, Mr Aimard was named the successor to the young wunderkind, Thomas Adès, as musical director of the Aldeburgh festival. Far from being the programme of rural tinklings in midsummer Suffolk that it might appear at first glance, Aldeburgh has been at the heart of contemporary music in Britain for more than half a century. The appointment raised some bushy eyebrows, not just because Mr Aimard is neither a composer nor British, but also because he and the continental avant-garde with whom he is principally associated have long derided or ignored Benjamin Britten, the revered British composer who founded the Aldeburgh concert series in 1948.

A highly successful interlude as the Lucerne festival's *artiste étoile* in 2007 and a Messiaen retrospective in London last year proved that Mr Aimard enjoys unrivalled connections with leading European composers and performers and has an attitude to music-making that is highly pragmatic while still uncompromising. Even his critics are heralding this year's Aldeburgh festival, which opens on June 12th, as one of the best programmes for years. New commissions include two staged works by Harrison Birtwistle. Elliott Carter, an American centenarian, will also be a prominent presence, with two days of concerts centred on the premiere of "On Conversing with Paradise", a setting of poems by Ezra Pound. Nor will Mr Aimard be confined to a backstage role. Among other performances, he will be playing the British premiere of George Benjamin's "Duet for Piano and Orchestra".

In conversation, Mr Aimard is refreshingly frank about the position of contemporary "classical" music. He confesses that the music composed now will never be accepted in the same way as the "great works" of history. This is not, he says, because today's composers are less good than their 18th- and 19th-century counterparts, but because they are doing very different things. The masterpieces of Europe's imperialist ascendancy are part of a vision in which the duty of genius, whether political or artistic, was to impose its own conception of truth on the rest of the world. Today's reality, much larger but vastly more fractured, says Mr Aimard, has little space for the monolithic grand narrative. That Mr Carter has a smaller audience than Tchaikovsky is of no importance; Mr Carter still has a very large audience.

Lebrecht



Windswept concentration

Mr Aimard also admits that contemporary classical music is damaged by a "special interest" status upheld as much by its defenders as its detractors. His own early commitment to the avant-garde, he says, came from a "sense of duty to a chronically under-represented aspect of culture". But he never intended to bind himself up exclusively in new music, a fact borne out in the consistently eclectic recital programmes he has been devising ever since his childhood teacher supplemented his diet of Carl Czerny, Johann Sebastian Bach and Bela Bartok with Karlheinz Stockhausen and Indian *raga* arrangements.

He points out that the privilege of working closely with Messiaen, Mr Boulez, Ligeti and, more recently, Mr Benjamin, has taught Mr Aimard that the chance to work and collaborate closely with living composers—a rarity for most concert pianists—is not one to be passed over. It is to everyone's loss if musicians ignore living composers and their particular powerful ability to give shape to the "cacophony of modern lived experience". Culture cannot be stored in a chocolate box, but must express the fears and hopes of the

living.

It is this attitude, above all, that makes Mr Aimard such a good choice for Aldeburgh. The festival has always excelled in combining new music with old, allowing each to shed light on the other. Indeed, in so far as Britten originally conceived of it as an incubator for musical culture in Suffolk and England more generally, while there may be less of the composer's actual music this year than before, his spirit seems to be as powerfully present as ever.

Orange prize for fiction

Francesca prima

Jun 4th 2009
From The Economist print edition

A beginner to watch out for

Writer Pictures



Francesca prima

ONE writer who is sure to receive a fillip from this year's Orange prize for fiction is not Marilynne Robinson, the winner of the overall prize (Ms Robinson, an American Pulitzer-prize-winner and the author of "Housekeeping", "Gilead" and "Home", hardly needs introductions). The biggest winner will be the novelist named as the best new writer of the year, Francesca Kay.

Ms Kay's "An Equal Stillness", her first novel, follows the story of two artists, Jennet Mallow, and her husband, David Heaton. Cast as a biography, the book records Jennet's life, contrasting the patience and generosity of spirit a mother needs when dealing with a disabled child and an alcoholic husband with the selfishness required to be an artist.

Raised in South-East Asia and India, and based now in Oxford, Ms Kay has an unusual ability to ignite the imagination. A passion for art and a gift for depicting the landscape of paint, as well as emotion, are what make the book stand out. Anne Michaels, a Canadian poet and no mean wordsmith herself, describes "An Equal Stillness" as "a first novel of uncommon power". Praise to be heeded.

Correction: Lynn Nottage

Jun 4th 2009
From The Economist print edition

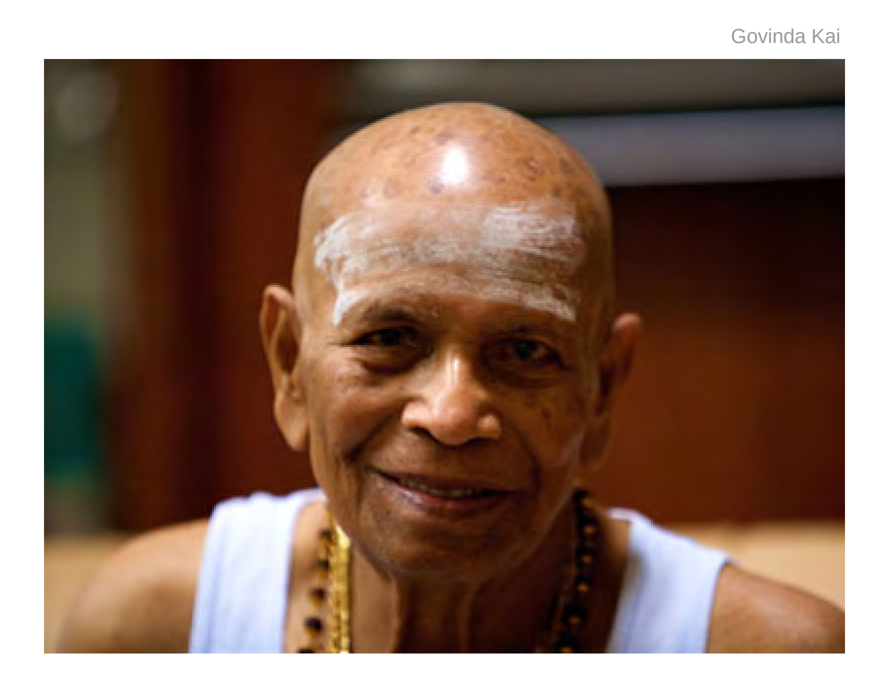
Correction: In our review of “Ruined”, Lynn Nottage’s play, “Political charge” (May 23rd), the phrase “violent genital mutilation” was written as “violent genetic mutilation”. Our apologies.

Pattabhi Jois

Jun 4th 2009
From The Economist print edition

Pattabhi Jois, a yoga teacher, died on May 18th, aged 93

Govinda Kai



ONE sure sign that yoga has entered the mainstream of Western society, or at least the urbane bits of it, is that its practitioners have splintered into separate and sometimes competitive tribes. In spas, resorts and studios from Byron Bay, Australia to Big Sur, California, and wherever else one might expect Priuses on the roads and organic kale on the tables, the question is less likely to be "Do you do yoga?" than simply "Ashtanga or Iyengar?"

If the answer is Ashtanga, that has everything to do with Pattabhi Jois—"Guruji", as his disciples called him. The word Ashtanga, "eight limbs", originally meant the eight stages yogis must traverse to reach enlightenment, only one of which, *asana* or "postures", is the sort of thing Westerners associate with yoga. But used in Mr Jois's way, which is how most Westerners understand it now, Ashtanga meant stretching, balancing and swinging to the relentless rhythm set by a little, smiling, potbellied man in an undershirt and Calvin Klein shorts, crying "*Ekam*, inhale! *dve*, exhale! *trini*, inhale! *catavari*, exhale!", until every member of the class was breathing like Darth Vader and running with rivers of sweat.

This was just how Mr Jois liked it. The intense internal heat generated by his sort of yoga was meant to purify and cleanse the body. For him, yoga was "99% practice and 1% theory", as he liked to say in his squeaky, mischievous voice. Though he was the son of a Brahmin priest, and knew the teachings, anyone asking him for deeper philosophy would get a smirk in reply, or a scrap of his famously broken English. Why, for instance, did he insist that one must enter the Lotus position right leg first? "Practice and all is coming," Mr Jois would say, and leave it at that.

He disdained the fastidious and perfectionist alignment of postures that some of his rivals practised in chilly yoga studios. He scorned Iyengar, the careful and medicinal branch of the art which, like his, arrived in the West in the 1960s, in which middle-aged ladies spent an eternity studying how to spread their toes properly while standing, before building complex poses with straps, blocks and chairs. His *Ashtangis* were younger and fitter, more likely to have *Om* tattoos and rippling shoulder muscles, and to start their exercises with a chant of "Guruji!" to a portrait of him pinned up on the wall.

His yoga poses came in sets and sequences that never varied. Do the same sets again and again, Mr Jois believed, and the body would, over time, supply its own grace. The poses did not change when he taught his daughter's son, whom he was grooming to carry on the tradition after losing one son to death and growing distant from another. Nor did they vary for new, pale, stiff arrivals from the West at his school in

Mysore, in India; nor for the Hollywood celebrities, from Madonna to Sting and Gwyneth Paltrow, who made the pilgrimage to catch Guruji on one of his world tours.

What changed was only how many of the six sequences—in theory, one for each day of the yoga week—the student was able and allowed to do. Each set had a theme, and they got harder and harder. The first, with many forward bends, was cleansing and calming; the second, with lots of back bends, was stimulating, and so on. The later ones were otherworldly in their contortions. It was said that only a handful of people could do all six.

Saluting the sun

Mr Jois first saw these yoga postures performed in one connected sequence in the 1920s, when he was 12. He was watching a demonstration by Tirumalai Krishnamacharya, a charismatic guru who would teach all the principal yogis who later brought yoga to the West. Electrified, he became Krishnamacharya's student the next day. His teacher made him start at daybreak, with sun salutations towards the east until he was sweaty and hot. Then followed postures, shoulderstands, headstands, deep breathing in the Lotus position and meditative rest. Strong, flexible and easily bored, the boy had found a discipline that challenged him.

After running away from his village with two rupees in his pocket, Mr Jois eventually managed to study at Mysore and then began to pass on what he had learnt. At first he taught in obscurity, in one small room with a grubby carpet, and only other Brahmin men. But from the late 1960s onwards, as the perfume of joss sticks drifted over Western civilisation, yoga caught on there too. A hippie fan brought him to California for a visit in 1975, and his fame spread.

Among his followers, Mr Jois inspired a cultish devotion. But his students were not unaware of their teacher's contradictions. What had happened, for example, to the yogic principle of *ahimsa*, non-violence? A good number of Mr Jois's students seemed constantly to be limping around with injured knees or backs because they had received his "adjustments", yanking them into Lotus, the splits or a backbend. And what about the yogic principle of *brahmacharya*, sexual continence? Women followers, it was said, received altogether different adjustments from the men. Most mysteriously, why had Mr Jois himself apparently stopped practising his sort of yoga decades ago? Was that another instance of the wisdom of the East?

Overview

Jun 4th 2009
From The Economist print edition

The rich world's **manufacturing** slump may be coming to an end. In **America**, the Institute for Supply Management's activity index rose from 40.1 to 42.8 in May (a reading above 50 indicates industry is expanding). In the **euro area**, the purchasing managers' index (PMI) rose by almost four points to 40.7. **Britain's** economy may grow again soon: its manufacturing PMI rose to 45.4 and the corresponding gauge for service industries shot up to 51.7, above the 50 mark for the first time in a year.

The unemployment rate in the **euro area** rose to 9.2% in April from 8.9% in March. The jobless rate in Germany consistent with the euro-zone figure ticked up for the fifth successive month, to 7.7%. Spain's unemployment rate jumped from 17.3% to 18.1%. GDP in the euro area fell by 2.5% in the first quarter, unrevised from an earlier estimate. Most of the fall was due to reductions in capital spending and stocks.

There were fresh signs that some **housing markets** are coming back to life. Home sales in America that had been agreed but not yet completed rose by 6.7% in May, the fourth increase in five months. In Britain, the number of loans approved for house purchase rose for a third successive month.

GDP in **Australia** rose by 0.4% in the first quarter of the year, reversing part of the 0.6% decline in the previous quarter. The Reserve Bank of Australia left its benchmark interest rate at 3% on June 2nd, but said falling inflation would permit further cuts in interest rates, if needed.

Output, prices and jobs

Jun 4th 2009
From The Economist print edition

Output, prices and jobs

% change on year ago

	Gross domestic product				Industrial production	Consumer prices			Unemployment
	latest	qtr*	2009†	2010†	latest	latest	year ago	2009†	rate‡, %
United States	−2.5 Q1	−5.7	−2.8	+1.6	−12.5 Apr	−0.7 Apr	+3.9	−0.8	8.9 Apr
Japan	−9.7 Q1	−15.2	−6.7	+0.8	−31.2 Apr	−0.1 Apr	+0.8	−1.1	5.0 Apr
China	+6.1 Q1	na	+6.5	+7.3	+7.3 Apr	−1.5 Apr	+8.5	−0.5	9.0 2008
Britain	−4.1 Q1	−7.4	−3.7	+0.6	−12.4 Mar	+2.3 Apr§	+3.0	+1.5	7.1 Mar††
Canada	−2.1 Q1	−5.4	−2.3	+1.7	−7.6 Feb	+0.4 Apr	+1.7	+0.3	8.0 Apr
Euro area	−4.8 Q1	−9.7	−4.1	+0.5	−20.2 Mar	nil May	+3.7	+0.4	9.2 Apr
Austria	−2.9 Q1	−10.6	−2.6	+0.2	−14.3 Mar	+0.7 Apr	+3.3	+0.5	4.2 Apr
Belgium	−3.0 Q1	−6.2	−3.3	+0.2	−18.6 Feb	−0.4 May	+5.2	+0.5	11.2 Feb‡‡
France	−3.2 Q1	−4.7	−2.8	+0.5	−15.8 Mar	+0.1 Apr	+3.0	+0.2	8.9 Apr
Germany	−6.9 Q1	−14.4	−5.5	+0.5	−20.3 Mar	nil May	+3.0	+0.2	8.3 Apr
Greece	+0.3 Q1	−4.6	−3.1	−0.7	−5.3 Mar	+1.0 Apr	+4.4	+0.4	9.1 Feb
Italy	−5.9 Q1	−9.4	−4.4	+0.3	−23.8 Mar	+0.9 May	+3.6	+0.7	6.9 Q4
Netherlands	−4.5 Q1	−10.7	−3.9	+0.5	−12.1 Mar	+1.6 May	+2.3	+0.9	4.4 Apr††
Spain	−3.0 Q1	−7.4	−3.5	−0.5	−14.0 Mar	−0.8 May	+4.6	−0.1	18.1 Apr
Czech Republic	+0.7 Q4	−3.7	−3.0	+1.2	−23.2 Apr	+1.8 Apr	+6.8	+1.9	7.9 Apr
Denmark	−3.7 Q4	−7.3	−3.5	+0.5	−15.0 Mar†††	+1.4 Apr	+3.2	+1.0	3.3 Apr
Hungary	−6.4 Q1	−8.9	−6.0	−1.0	−19.6 Mar	+3.4 Apr	+6.6	+3.0	9.9 Apr††
Norway	+1.5 Q1	−1.8	−2.0	+0.5	−1.6 Mar	+2.9 Apr	+3.1	+1.9	3.2 Mar***
Poland	+0.8 Q1	na	−0.8	+1.5	−12.4 Apr	+4.0 Apr	+4.0	+2.5	11.0 Apr††
Russia	−9.5 Q1	na	−5.0	+2.0	−16.9 Apr	+13.2 Apr	+14.3	+13.6	10.2 Apr‡‡
Sweden	−6.5 Q1	−3.6	−4.6	+0.9	−22.9 Mar	+0.1 Apr	+3.4	−0.4	8.3 Apr‡‡
Switzerland	−2.4 Q1	−16.0	−2.3	+0.3	−6.0 Q4	−0.3 Apr	+2.3	−0.5	3.4 Apr
Turkey	−6.2 Q4	na	−4.5	+1.0	−20.9 Mar	+5.2 May	+10.7	+6.8	16.1 Q1‡‡
Australia	+0.4 Q1	+1.5	−0.8	+1.6	−0.7 Q4	+2.5 Q1	+4.2	+1.8	5.4 Apr
Hong Kong	−7.8 Q1	−16.1	−5.8	+0.6	−10.3 Q4	+0.6 Apr	+5.4	+1.1	5.3 Apr††
India	+5.8 Q1	na	+5.0	+6.4	−2.3 Mar	+8.7 Apr	+7.8	+5.9	6.8 2008
Indonesia	+4.4 Q1	na	+2.4	+3.2	+1.6 Mar	+3.8 May	+10.4	+3.9	8.4 Aug
Malaysia	−6.2 Q1	na	−3.0	+1.2	−14.3 Mar	+3.0 Apr	+3.0	−0.5	3.0 Q4
Pakistan	+5.8 2008**	na	−0.9	+2.0	−7.9 Feb	+17.2 Apr	+17.2	+12.6	5.6 2007
Singapore	−10.1 Q1	−14.6	−8.8	+1.0	−0.5 Apr	−0.7 Apr	+7.5	−0.2	3.2 Q1
South Korea	−4.3 Q1	+0.2	−6.0	+0.4	−8.2 Apr	+2.7 May	+4.9	+1.4	3.7 Apr
Taiwan	−10.2 Q1	na	−6.5	+0.4	−19.5 Apr	−0.5 Apr	+3.9	−1.3	5.8 Apr
Thailand	−7.1 Q1	−7.3	−4.4	+1.1	−9.7 Apr	−3.3 May	+7.6	−1.1	1.9 Mar
Argentina	+4.9 Q4	−1.2	−3.5	+0.5	−1.2 Apr	+5.7 Apr	+8.9	+7.2	8.4 Q1‡‡
Brazil	+1.3 Q4	−13.6	−1.5	+2.7	−14.8 Apr	+5.5 Apr	+5.0	+4.4	8.9 Apr‡‡
Chile	−2.1 Q1	−2.4	−0.8	+2.0	−11.1 Apr	+4.5 Apr	+8.3	+3.1	9.8 Apr††‡‡
Colombia	−0.7 Q4	−4.1	−2.0	+1.8	+0.4 Mar	+5.7 Apr	+5.7	+5.2	12.0 Mar‡‡
Mexico	−8.2 Q1	−21.5	−4.4	+1.2	−6.7 Mar	+6.2 Apr	+4.6	+5.1	5.3 Apr‡‡
Venezuela	+0.3 Q1	na	−5.5	−5.4	−0.9 Jan	+29.4 Apr	+29.3	+30.3	8.1 Q1‡‡
Egypt	+4.3 Q1	na	+3.4	+3.1	+5.7 Q4	+11.7 Apr	+16.4	+9.1	9.4 Q1‡‡
Israel	+1.1 Q1	−3.6	−0.9	+2.0	−7.7 Mar	+3.1 Apr	+4.7	+1.5	7.6 Q1
Saudi Arabia	+4.2 2008	na	−1.0	+3.3	na	+5.2 Apr	+9.2	+4.3	na
South Africa	−1.3 Q1	−6.4	−1.8	+3.1	+8.5 Mar	+8.4 Apr	+11.1	+6.6	23.5 Mar‡‡
MORE COUNTRIES Data for the countries below are not provided in printed editions of *The Economist*									
Estonia	−15.6 Q1	na	−10.0	−2.5	−33.7 Apr	+0.3 Apr	+11.4	+0.5	11.1 Mar
Finland	−2.4 Q4	−5.0	−5.7	−1.1	−16.5 Mar	+0.8 Apr	+3.6	+0.3	8.2 Apr
Iceland	−1.3 Q4	−3.6	−12.0	−0.7	+10.1 2008	+11.6 May	+12.3	+12.5	9.1 Apr‡‡
Ireland	−7.5 Q4	−25.7	−7.4	−2.5	−6.7 Mar	−3.5 Apr	+4.3	−3.5	11.4 Apr
Latvia	−18.0 Q1	na	−15.0	−4.0	−16.9 Apr	+6.4 Apr	+17.4	+2.5	16.1 Mar
Lithuania	−13.6 Q1	−35.8	−8.5	−2.5	na May	+6.3 Apr	+11.7	+4.3	9.5 Mar‡‡
Luxembourg	−5.2 Q4	−16.8	−4.1	−0.5	−36.1 Feb	+0.3 Mar	+3.5	+0.5	5.5 Mar‡‡
New Zealand	−2.3 Q4	−2.3	−2.9	+0.5	−7.2 Q4	+3.0 Q1	+3.4	+1.4	5.0 Q1
Peru	+3.0 Mar	na	+1.3	+2.5	−7.4 Feb	+4.2 May	+5.4	+4.1	9.3 Mar‡‡
Philippines	+0.4 Q1	−8.9	−1.9	+1.3	−12.7 Mar	+4.8 Apr	+8.3	+2.7	7.7 Q1‡‡
Portugal	−3.7 Q1	−8.5	−4.0	−0.3	−7.6 Mar	−0.5 Apr	+2.5	−0.7	8.9 Q1‡‡
Slovakia	−5.6 Q1	na	−2.0	+1.0	−18.0 Mar	+2.3 Apr	+4.2	+2.0	10.9 Apr‡‡
Slovenia	−0.8 Q4	na	−1.5	+1.0	−18.5 Mar	+0.7 May	+6.4	+1.5	8.4 Mar‡‡
Ukraine	+6.9 Q3	na	−10.0	+1.0	−31.8 Apr	+15.6 Apr	+30.2	+16.5	2.9 Apr
Vietnam	+5.5 Q4	na	+1.6	+4.0	+5.4 Apr	+9.2 Apr	+21.4	+5.4	4.6 2007

*% change on previous quarter, annual rate. †The Economist poll or Economist Intelligence Unit estimate/forecast. ‡National definitions.- §RPI inflation rate -1.2 in Apr. **Year ending June. ††Latest three months. ‡‡Not seasonally adjusted. ***Centred 3-month average †††New series

Sources: National statistics offices and central banks; Thomson Datastream; Reuters; Centre for Monitoring Indian Economy; OECD; ECB

The Economist commodity-price index

Jun 4th 2009
From The Economist print edition

The Economist commodity-price index
2000=100

	May 26th	Jun 2nd*	% change on one month	% change on one year
Dollar index				
All items	182.4	191.4	+8.7	-23.6
Food	211.3	219.4	+9.9	-13.0
Industrials				
All	145.1	155.2	+6.6	-37.6
Nfa†	129.7	135.0	+7.0	-32.2
Metals	153.5	166.3	+6.4	-39.7
Sterling index				
All items	173.5	175.3	-1.1	-9.3
Euro index				
All items	120.6	123.8	+1.4	-17.4
Gold				
$ per oz	958.80	982.00	+8.6	+11.4
West Texas Intermediate				
$ per barrel	62.48	68.58	+27.4	-44.8

*Provisional †Non-food agriculturals

The Economist poll of forecasters, June averages

Jun 4th 2009
From The Economist print edition

The Economist **poll of forecasters, June averages** (previous month's, if changed)

	Real GDP, % change low/high range		Real GDP, % change average		Consumer prices % increase		Current account % of GDP	
	2009	2010	2009	2010	2009	2010	2009	2010
Australia	−1.6/0.1	0.3/3.1	−0.8 (-0.7)	1.6	1.8 (2.0)	2.3 (2.4)	−4.7 (-5.0)	−5.4 (-5.6)
Belgium	−4.2/−2.6	−1.0/1.2	−3.3 (-3.0)	0.2	0.5 (0.6)	1.3 (1.4)	−1.8	−1.7
Britain	−4.4/−2.5	−1.1/1.7	−3.7	0.6 (0.3)	1.5	1.7 (1.8)	−1.6 (-1.7)	−1.2 (-1.3)
Canada	−2.9/−1.2	0.7/2.5	−2.3	1.7 (1.6)	0.3 (0.5)	1.7	−1.9 (-2.0)	−1.1
France	−3.5/−2.2	−0.6/1.5	−2.8 (-2.9)	0.5 (0.3)	0.2	1.0 (1.1)	−2.2 (-2.3)	−2.5 (-2.6)
Germany	−6.4/−4.0	−0.8/1.5	−5.5 (-5.2)	0.5 (0.3)	0.2	0.8	4.4	4.2 (4.1)
Italy	−5.4/−3.0	−0.9/1.4	−4.4 (-4.0)	0.3 (0.1)	0.7	1.4	−2.6	−2.6
Japan	−8.0/−5.6	−0.3/2.5	−6.7 (-6.4)	0.8 (0.6)	−1.1	−0.5 (-0.4)	1.7 (1.6)	2.0 (1.8)
Netherlands	−5.0/−2.1	−0.9/1.2	−3.9 (-3.1)	0.5	0.9	0.9	5.9	4.6
Spain	−4.5/−1.8	−1.9/0.6	−3.5 (-3.3)	−0.5	−0.1	1.4	−7.5 (-6.9)	−6.6 (-6.7)
Sweden	−5.7/−3.3	−0.3/1.7	−4.6 (-4.1)	0.9 (0.8)	−0.4 (-0.2)	1.0 (1.1)	7.3 (7.1)	7.1 (7.2)
Switzerland	−3.7/−1.5	−1.5/1.1	−2.3 (-2.4)	0.3 (0.2)	−0.5	0.4 (0.5)	7.6 (7.5)	7.8 (7.6)
United States	−3.6/−1.6	−0.1/2.8	−2.8 (-2.9)	1.6 (1.4)	−0.8	1.2	−3.2 (-3.3)	−3.4
Euro area	−4.5/−3.2	−0.7/1.2	−4.1 (-3.7)	0.5 (0.3)	0.4	1.0	−1.0	−0.8

Sources: BNP Paribas, Citigroup, Decision Economics, Deutsche Bank, Economist Intelligence Unit, Goldman Sachs, HSBC Securities, KBC Bank, JPMorgan Chase, Morgan Stanley, RBS, Scotiabank, UBS

Trade, exchange rates, budget balances and interest rates

Jun 4th 2009
From The Economist print edition

Trade, exchange rates, budget balances and interest rates

	Trade balance* latest 12 months, $bn	Current-account balance latest 12 months, $bn	Current-account balance % of GDP 2009†	Currency units, per $ Jun 3rd	Currency units, per $ year ago	Budget balance % of GDP 2009†	Interest rates, % 3-month latest	Interest rates, % 10-year gov't bonds, latest
United States	-730.4 Mar	-673.3 Q4	-3.2	-	-	-13.2	0.30	3.55
Japan	+10.0 Mar	+118.2 Mar	+1.7	95.7	105	-5.7	0.45	1.55
China	+300.5 Apr	+400.7 Q2	+7.4	6.83	6.94	-3.8	1.22	3.33
Britain	-156.7 Mar	-44.6 Q4	-1.6	0.61	0.51	-13.8	1.20	3.78
Canada	+32.7 Mar	-3.9 Q1	-1.9	1.10	1.01	-2.3	0.20	3.50
Euro area	-56.8 Mar	-145.2 Mar	-1.0	0.70	0.65	-5.8	1.26	3.60
Austria	-3.9 Feb	+15.0 Q4	+1.7	0.70	0.65	-4.6	1.26	4.26
Belgium	+5.0 Feb	-12.1 Dec	-1.8	0.70	0.65	-4.4	1.28	4.13
France	-79.1 Mar	-53.6 Mar	-2.2	0.70	0.65	-6.6	1.26	3.91
Germany	+223.3 Mar	+193.7 Mar	+4.4	0.70	0.65	-4.4	1.26	3.57
Greece	-61.1 Feb	-46.7 Mar	-8.8	0.70	0.65	-6.0	1.26	5.48
Italy	-14.9 Mar	-70.6 Mar	-2.6	0.70	0.65	-5.3	1.26	4.58
Netherlands	+47.6 Mar	+65.3 Q4	+5.9	0.70	0.65	-4.1	1.26	3.96
Spain	-117.2 Mar	+135.9 Mar	-7.5	0.70	0.65	-9.6	1.26	4.24
Czech Republic	+4.0 Mar	-7.2 Mar	-2.1	18.9	16.0	-4.0	2.23	5.63
Denmark	+7.0 Mar	+8.0 Mar	+1.0	5.25	4.83	-2.5	2.49	3.91
Hungary	+0.1 Mar	-13.0 Q4	-3.0	202	157	-2.9	9.67	10.47
Norway	+70.1 Apr	+79.6 Q1	+10.5	6.32	5.15	10.5	2.35	4.27
Poland	-20.2 Mar	-22.0 Mar	-5.2	3.19	2.18	-3.8	4.64	6.31
Russia	+142.3 Apr	+75.4 Q1	-0.6	30.8	23.8	-8.4	12.00	10.61
Sweden	+13.1 Apr	+31.4 Q1	+7.3	7.67	6.05	-4.7	0.40	3.70
Switzerland	+18.0 Apr	+53.3 Q4	+7.6	1.07	1.04	-3.1	0.39	2.42
Turkey	-54.2 Apr	-30.5 Mar	-1.3	1.54	1.23	-5.3	10.81	6.65‡
Australia	+6.1 Apr	-29.8 Q1	-4.7	1.23	1.04	-3.3	3.20	5.49
Hong Kong	-23.8 Apr	+30.5 Q4	+7.8	7.75	7.81	-4.3	3.45	2.73
India	-104.9 Apr	-37.5 Q4	-3.4	47.1	42.8	-7.3	3.31	7.37
Indonesia	+10.4 Apr	-0.8 Q1	+0.5	10,115	9,316	-3.2	7.98	7.47‡
Malaysia	+43.5 Mar	+39.1 Q4	+11.5	3.48	3.24	-8.2	2.09	2.84‡
Pakistan	-17.8 Apr	-15.3 Q4	-1.2	80.7	67.4	-5.6	13.70	15.40†
Singapore	+17.1 Apr	+23.1 Q1	+17.2	1.44	1.36	-4.1	0.48	2.42
South Korea	+7.5 May	+13.2 Apr	+1.2	1,233	1,017	-5.6	2.41	5.08
Taiwan	+11.2 Apr	+29.2 Q1	+9.7	32.5	30.3	-5.0	0.85	1.44
Thailand	+9.9 Apr	+7.9 Apr	+2.7	34.1	32.7	-4.7	1.35	3.12
Argentina	+14.4 Apr	+7.6 Q4	+2.0	3.74	3.06	-0.9	14.56	na
Brazil	+25.6 May	-19.8 Apr	-1.2	1.94	1.63	-2.0	10.16	6.16‡
Chile	+3.8 Apr	-3.4 Q4	-1.8	565	490	-3.3	1.56	3.23‡
Colombia	+2.1 Feb	-6.8 Q4	-3.9	2,070	1,731	-3.4	6.10	6.14‡
Mexico	-16.2 Apr	-14.2 Q1	-3.1	13.3	10.3	-5.3	5.08	7.89
Venezuela	+32.5 Q1	+26.2 Q1	nil	6.54	3.30§	-7.8	16.00	6.55‡
Egypt	-26.8 Q4	-1.3 Q4	-0.8	5.61	5.35	-7.0	10.32	3.30‡
Israel	-10.8 Apr	+1.6 Q4	+2.0	3.96	3.33	-5.8	0.46	4.50
Saudi Arabia	+197.4 2008	+124.0 2008	-8.4	3.75	3.75	-9.0	0.84	na
South Africa	-6.2 Apr	-21.0 Q4	-5.6	8.06	7.77	-4.0	7.30	8.87
MORE COUNTRIES Data for the countries below are not provided in printed editions of *The Economist*								
Estonia	-2.9 Mar	-1.6 Mar	-3.0	11.0	10.1	-3.5	6.27	na
Finland	+7.5 Mar	+2.5 Mar	+0.6	0.70	0.65	-2.6	1.24	3.99
Iceland	+0.2 Apr	-5.6 Q4	+2.4	123	77.8	-12.0	7.38	na
Ireland	+45.9 Mar	-12.7 Q4	-2.6	0.70	0.65	-12.5	1.26	5.51
Latvia	-5.0 Mar	-3.0 Mar	-2.0	0.50	0.45	-8.0	13.11	na
Lithuania	-5.4 Mar	-3.6 Mar	-4.0	2.43	2.24	-2.7	7.37	na
Luxembourg	-7.8 Feb	+3.0 Q4	na	0.70	0.65	-3.5	1.26	na
New Zealand	-2.9 Apr	-11.3 Q4	-6.6	1.56	1.28	-6.2	4.15	5.87
Peru	+2.0 Mar	-4.2 Q4	-5.5	2.98	2.82	-1.6	4.00	na
Philippines	-7.2 Mar	+4.2 Dec	+2.3	47.2	43.9	-2.8	3.63	na
Portugal	-33.0 Feb	-27.0 Mar	-9.9	0.70	0.65	-6.0	1.26	4.41
Slovakia	-1.0 Mar	-6.0 Mar	-6.3	21.2	19.6	-4.5	1.35	4.79
Slovenia	-4.1 Mar	-2.5 Feb	-3.5	0.70	0.65	-3.7	1.26	na
Ukraine	-16.9 Q4	-9.8 Q1	-0.3	7.62	4.77	-4.3	10.90	na
Vietnam	-6.2 Apr	-7.0 2007	-0.5	17,773	16,267	-8.2	7.98	6.87

*Merchandise trade only. †The Economist poll or Economist Intelligence Unit forecast. ‡Dollar-denominated bonds. §Unofficial exchange rate.

Markets

Jun 4th 2009
From The Economist print edition

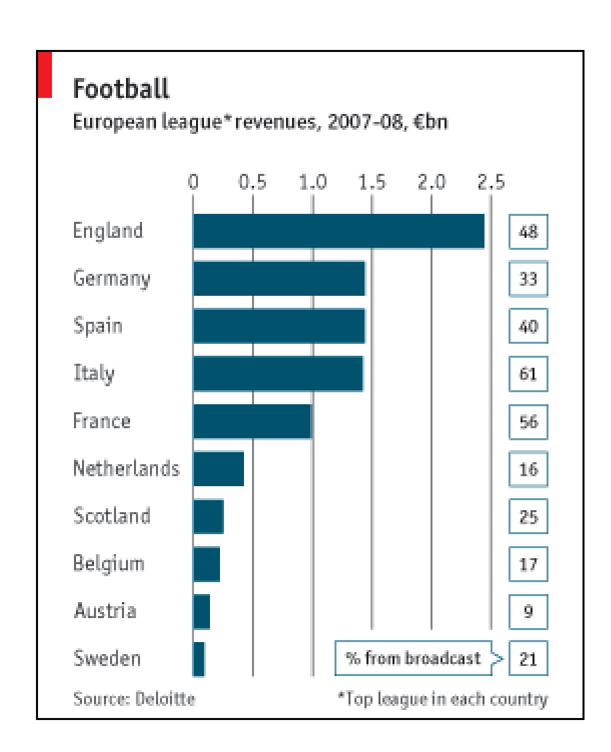
Markets

	Index Jun 3rd	% change on one week	% change on Dec 31st 2008 in local currency	% change on Dec 31st 2008 in $ terms
United States (DJIA)	8,675.3	+4.5	-1.2	-1.2
United States (S&P 500)	931.8	+4.3	+3.2	+3.2
United States (NAScomp)	1,825.9	+5.5	+15.8	+15.8
Japan (Nikkei 225)	9,741.7	+3.2	+10.0	+4.1
Japan (Topix)	914.5	+2.4	+6.4	+0.8
China (SSEA)	2,916.7	+5.5	+52.6	+52.4
China (SSEB, $ terms)	181.1	+3.5	+63.5	+63.3
Britain (FTSE 100)	4,383.4	-0.7	-1.1	+12.7
Canada (S&P TSX)	10,290.1	+1.5	+14.5	+28.8
Euro area (FTSE Euro 100)	766.0	+0.2	+2.6	+4.8
Euro area (DJ STOXX 50)	2,483.4	+0.2	+1.5	+3.6
Austria (ATX)	2,138.5	+4.7	+22.1	+24.7
Belgium (Bel 20)	2,066.5	-0.9	+8.3	+10.5
France (CAC 40)	3,309.7	+0.4	+2.8	+5.0
Germany (DAX)*	5,054.5	+1.1	+5.1	+7.3
Greece (Athex Comp)	2,408.8	+5.0	+34.8	+37.6
Italy (S&P/MIB)	20,117.7	-1.0	+3.4	+5.5
Netherlands (AEX)	264.4	+0.1	+7.5	+9.7
Spain (Madrid SE)	979.5	-0.5	+0.4	+2.4
Czech Republic (PX)	923.7	+1.5	+7.6	+9.8
Denmark (OMXCB)	271.6	-2.1	+20.1	+22.5
Hungary (BUX)	15,192.3	-3.3	+24.1	+17.5
Norway (OSEAX)	343.7	+2.7	+27.2	+40.9
Poland (WIG)	31,030.6	+4.2	+14.0	+5.9
Russia (RTS, $ terms)	1,127.6	+9.4	+79.9	+78.4
Sweden (OMXS30)†	770.6	-0.4	+16.3	+20.0
Switzerland (SMI)	5,384.7	-0.6	-2.7	-3.1
Turkey (ISE)	35,722.2	+1.6	+33.0	+33.3
Australia (All Ord.)	4,009.3	+5.6	+9.6	+24.4
Hong Kong (Hang Seng)	18,576.5	+3.9	+29.1	+29.1
India (BSE)	14,870.9	+5.4	+54.1	+59.5
Indonesia (JSX)	2,010.9	+6.2	+48.4	+59.9
Malaysia (KLSE)	1,055.4	+0.7	+20.4	+19.5
Pakistan (KSE)	6,989.9	-2.8	+19.2	+16.9
Singapore (STI)	2,383.8	+3.4	+35.3	+35.2
South Korea (KOSPI)	1,414.9	+3.9	+25.8	+28.5
Taiwan (TWI)	6,893.1	nil	+50.1	+51.6
Thailand (SET)	582.3	+4.8	+29.4	+32.1
Argentina (MERV)	1,600.9	+2.1	+48.3	+36.9
Brazil (BVSP)	52,086.0	+0.6	+38.7	+66.4
Chile (IGPA)	15,033.4	+4.2	+32.8	+49.7
Colombia (IGBC)	9,312.0	+2.0	+23.2	+33.8
Mexico (IPC)	24,651.3	+0.6	+10.1	+14.6
Venezuela (IBC)	43,046.6	-1.4	+22.7	+32.1
Egypt (Case 30)	6,174.3	+5.2	+34.3	+32.1
Israel (TA-100)	811.5	+2.6	+43.9	+37.1
Saudi Arabia (Tadawul)	6,048.9	+4.8	+25.9	+26.0
South Africa (JSE AS)	23,063.2	+2.4	+7.2	+22.9
Europe (FTSEurofirst 300)	868.1	-0.3	+4.3	+6.5
World, dev'd (MSCI)	983.0	+3.2	+6.8	+6.8
Emerging markets (MSCI)	784.2	+4.0	+38.3	+38.3
World, all (MSCI)	250.0	+3.3	+9.8	+9.8
World bonds (Citigroup)	797.2	+0.9	-1.6	-1.6
EMBI+ (JPMorgan)	438.5	+0.8	+12.0	+12.0
Hedge funds (HFRX)§	1,079.5	+1.1	+5.8	+5.8
Volatility, US (VIX)	31.0	32.4	40.0	(levels)
CDSs, Eur (iTRAXX)‡	121.9	-12.4	-39.7	-38.4
CDSs, N Am (CDX)‡	179.9	-8.6	-22.9	-22.9
Carbon trading (EU ETS) €	14.3	-6.2	-11.3	-9.5

*Total return index. †New series. ‡Credit-default swap spreads, basis points. Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Reuters; WM/Reuters; JPMorgan Chase; Bank Leumi le-Israel; CBOE; CMIE; Danske Bank; EEX; HKMA; Markit; Standard Bank Group; UBS; Westpac. §May 26th

Football

Jun 4th 2009
From The Economist print edition



England's leading football clubs pull in far more money than their counterparts elsewhere in Europe. According to an annual review by Deloitte, a firm of consultants, the revenues of Premier League clubs amounted to €2.4 billion ($3.8 billion) in the 2007-08 season. Their lead probably narrowed in 2008-09, because the pound was weaker, but remains vast. The rapid growth of the five leading leagues' revenues has been fuelled largely by television fees—which account for a much smaller share of the revenue in other leagues. Crowds are biggest not in England but in the German Bundesliga: 42,600 per game last season, about 3,000 more than in 2007-08 and 7,000 more than in the Premier League.